EROWA®
system solutions

General Catalog

Unlocking the full potential of your machines



Welcome to EROWA

In the service of your productivity since 1971

Set up in 1971, EROWA AG is now a globally operating organization for the development, production, consultation and distribution of state-of-the-art manufacturing technology in tool- and mold-making, as well as production and precision mechanics. In its main areas of activity, clamping technology and automation, EROWA is among the world's leaders.

EROWA's headquarters are based in Büron in Central Switzerland. With its 11 subsidiaries, 22 representations and worldwide customer service, the company currently employs about 550 staff.

Our extremely high degree of manufacturing know-how, our engineering competence and our rigorous service focus are the driving forces of EROWA's mission: to increase productivity and to satisfy customers.





50 years more than you expect

Striving for solutions that boost efficiency has been in EROWA's DNA since its foundation: our products are based on solutions we developed ourselves to meet our own daily practice-oriented requirements in manufacturing.

It is on the basis of our own experience of 50 years that we are convinced that the development of our tooling systems and automation solutions constitutes an essential cornerstone of the successful production of high-precision workpieces - not least because of the outstanding repeatability and long lifecycle of our products, which have no equal in the market.



Since «Day 1», our customers have not merely received a high-quality Swiss article when they purchased an EROWA product, but also our pledge for a time-tested, independent guaranteed working order in combination with virtually all machine tools from the widest variety of manufacturers and technologies.

EROWA's integrative thinking has been our own fuel for sparking ideas in the field of robotics and process control systems since 1987. And 35 years later, it is still that very same spirit that is now called the start of Industry 4.0.

With intelligently interlinked systems toward the Smart Factory





Cooperation with EROWA means setting off into a new, rational time. Boosting efficiency has always been the driving force of our development teams. The way there leads through our JMS 4.0 process control system, which controls your workflows, minimizes downtimes and optimizes process security.

Perfect automation of manufacture
In the fields of productivity, quality and flexibility, we take your manufacturing processes to the highest level. In addition, we assist you in your data management in an increasingly digital world and enable you to have complete control over your production with the JMS 4.0 process control system.

Invest in security
When you opt for EROWA, you also opt for investment security. You will receive flawless quality, time-tested products, excellent advice and a forward-looking service before, during and after the project.

Our compatibility is a guarantee for your independence
Our process control systems and robots have been conceptualized in a manner that makes them independent of specific machines: this means that you will remain flexible in the choice of your machine tool and be able to modularly extend your Smart Factors later on at any time.

Interlinked systems
Thanks to a consistently compatible dataflow from CAD/CAM to ERP, paperless production becomes a reality. Numerous interfaces in the JMS 4.0 ensure that you can plan and work with real-time data.

Discover Smart Factory:
erowa.com/en/smartfactory

more
than you expect

EROWA makes every effort to offer you more than you expect: a service you did not count on, an advantage in production that you had not thought of, and a degree of flexibility and security you would have thought beyond the realms of the possible.

«Flexible Manufacturing Concept»: undreamt-of productivity

Our «Flexible Manufacturing Concept» has been exerting a sustainable influence on productivity in the manufacturing industry for more than 30 years. Our consistently ongoing development of the concept, particularly in the field of process control/software solutions, makes our FMC the centerpiece of the Smart Factory, completely in line with Industry 4.0.

Today, the flexibility of EROWA's system extends so far that even the production of one-off parts can be automated without a hitch. We at EROWA are always thinking about how the workflow of your machines can still be improved and the downtimes minimized even further.

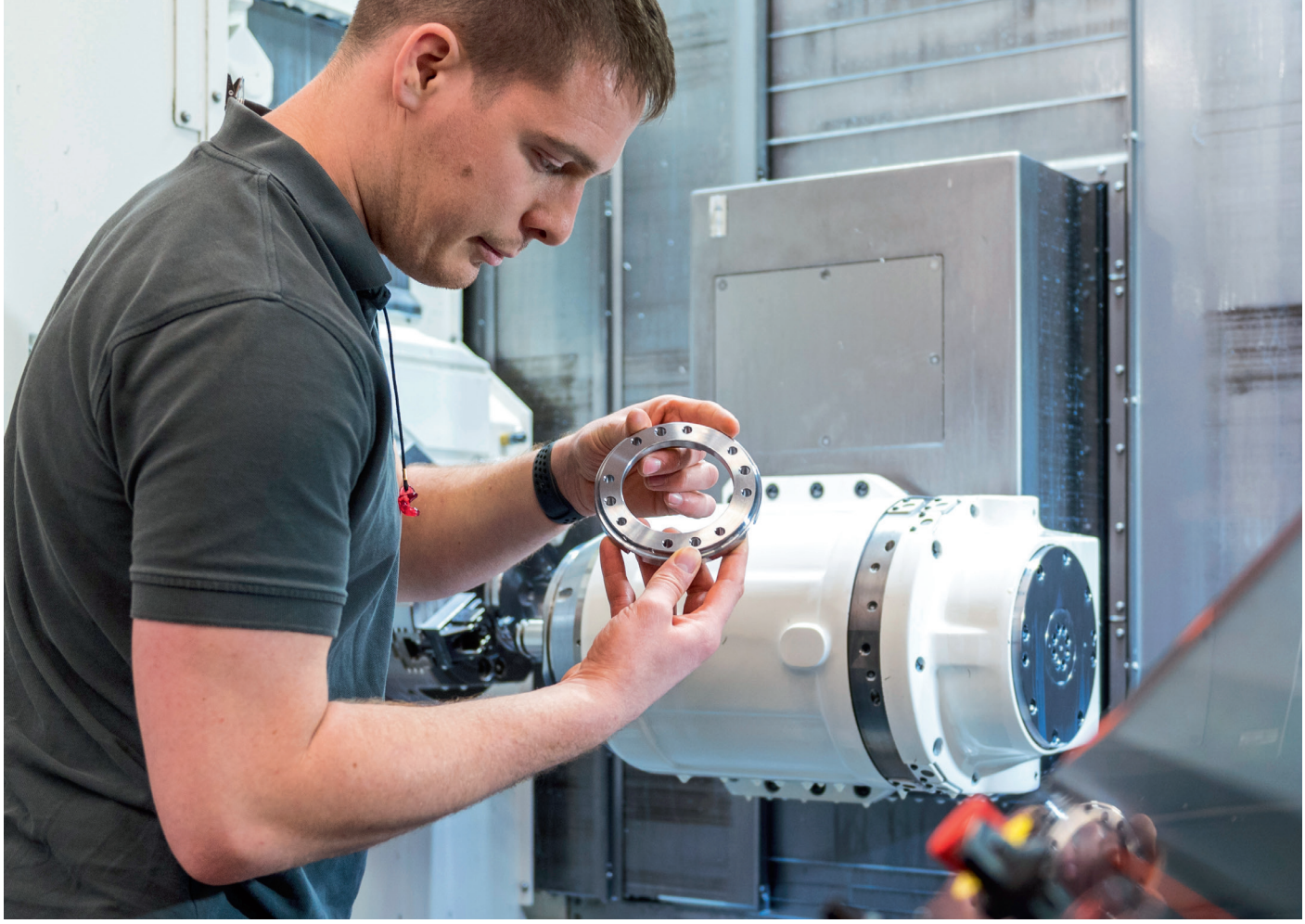
Your companion toward an individual solution

So «More Than You Expect» does not end with fully developed products. With EROWA, you will be provided with investment security from the first ideas through realization concepts and implementation proposals to your production system. In addition, our maintenance concepts and our support leave the standards of the industry far behind.

Rather a great deal wouldn't you say? There you are: more than you expect.

If you too want to take the productivity of our manufacturing technology to another level, then EROWA is the right partner for you.





Highest precision in the µ-range for tool and mold-making
EROWA has for decades been setting standards in tool and mold-making with smart products which are in demand worldwide. They are notably applied for injection molds, punching tools, bending tools and forming dies, as well as in sintering technology.

EROWA is the epitome of flexible overall solutions. And this with the highest degree of precision in the µ-range. Errors and rejects are almost excluded - in the face of the high pre-investments which have often been made in the workpieces to be machined, this is an extremely valuable advantage. We from EROWA speak the same language as you. It is the language of zero error tolerance.

Maximum stability and flexibility in production and precision mechanics
Solutions developed by EROWA occur in all the batch sizes in the chip-removing industry. For instance in the aviation industry, medical technology, the automotive industry, machine-building and micromechanics.

EROWA components are extremely robust and capable of sustaining immense machining forces without any problems. In this way, EROWA guarantees a high degree of process security even when oversized workpieces are involved.

Are you often caught off guard by express orders and short-notice modifications? Our standardization solutions take the burden off you with shortened resetting times and efficient customizing.

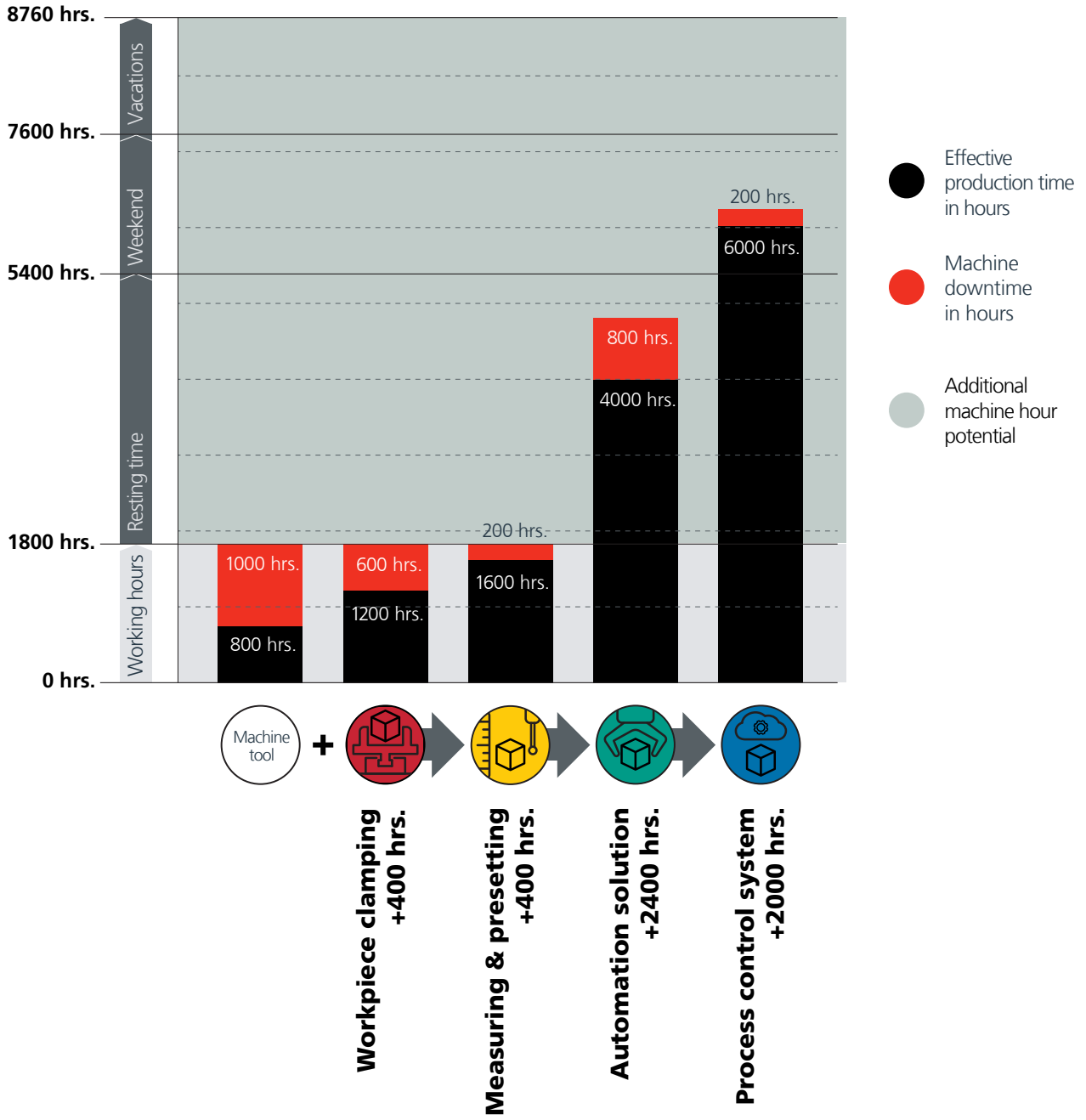




Optimal utilization of resources

The suitable EROWA components will enable you to make optimal use of your machines.
We'll be glad to assist you with our many years of experience.
You call - we'll show up.

Effective machine hours per year in one-shift operation



How to find everything

STANDARDIZATION

EROWA TOOLING SYSTEMS

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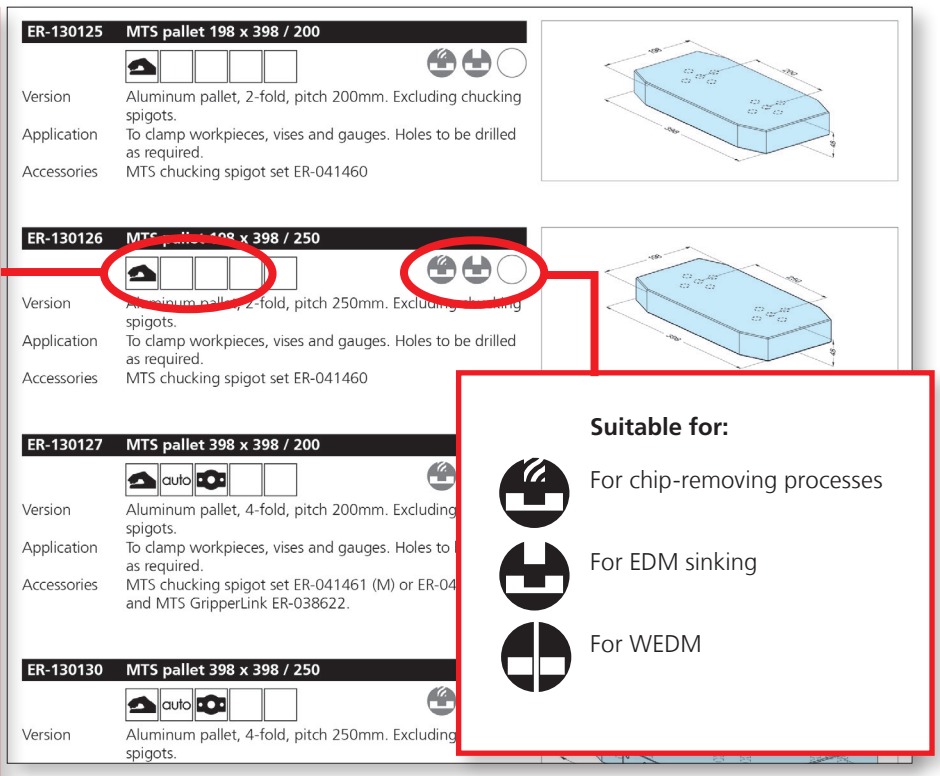
EROWA JMS 4.0 process control system 408

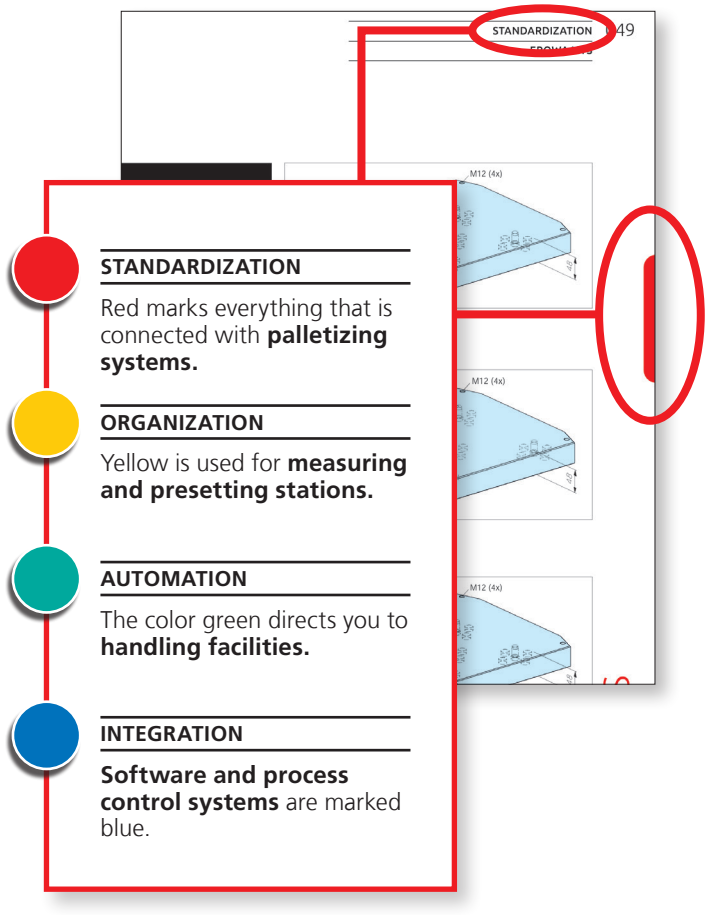
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This is how the General Catalog works

1. Manual operation
2. Operate with com-pressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
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16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

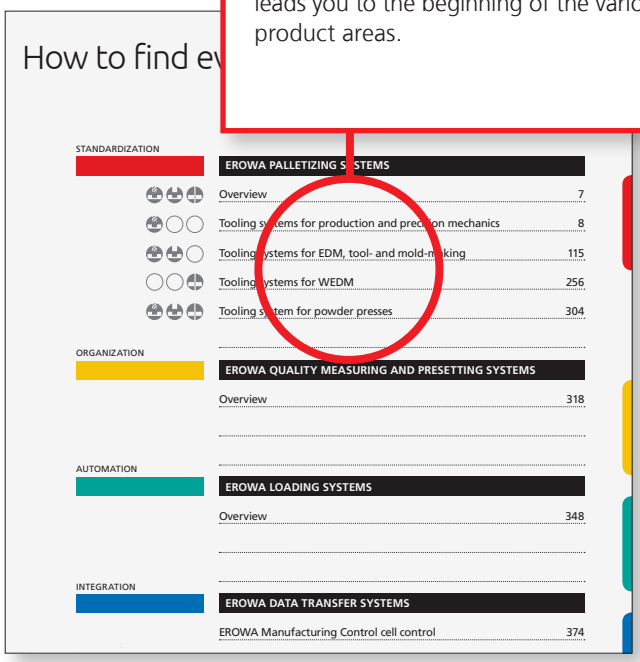




To make it easier for you to find your bearings among all the applications of EROWA products, we use the following icons in all our documents:

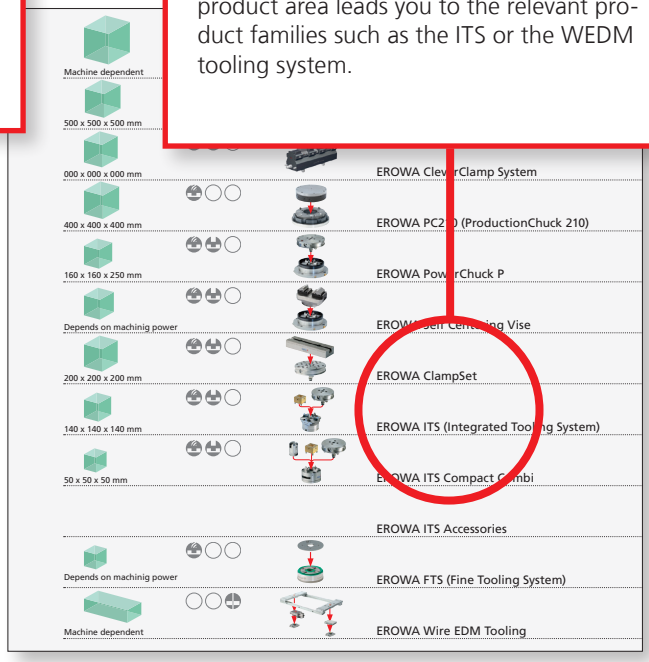
QUICK SEARCH

The quick search on the first inside page leads you to the beginning of the various product areas.



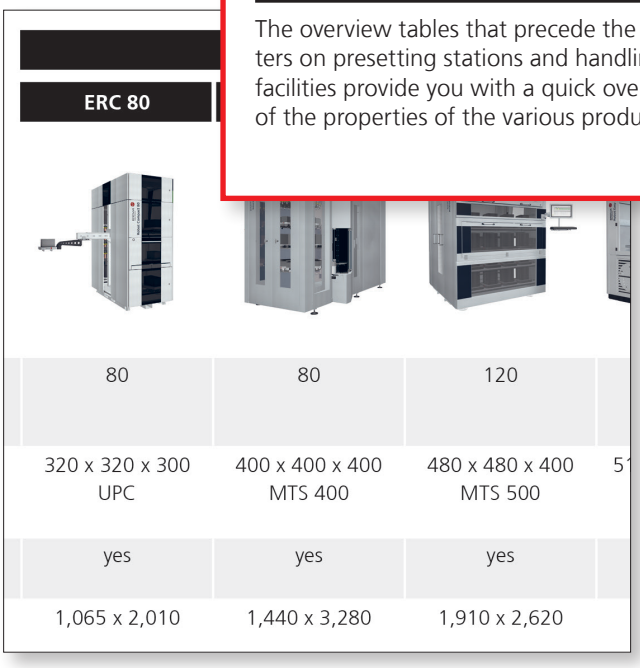
DETAILED OVERVIEW

The detailed overview that precedes each product area leads you to the relevant product families such as the ITS or the WEDM tooling system.

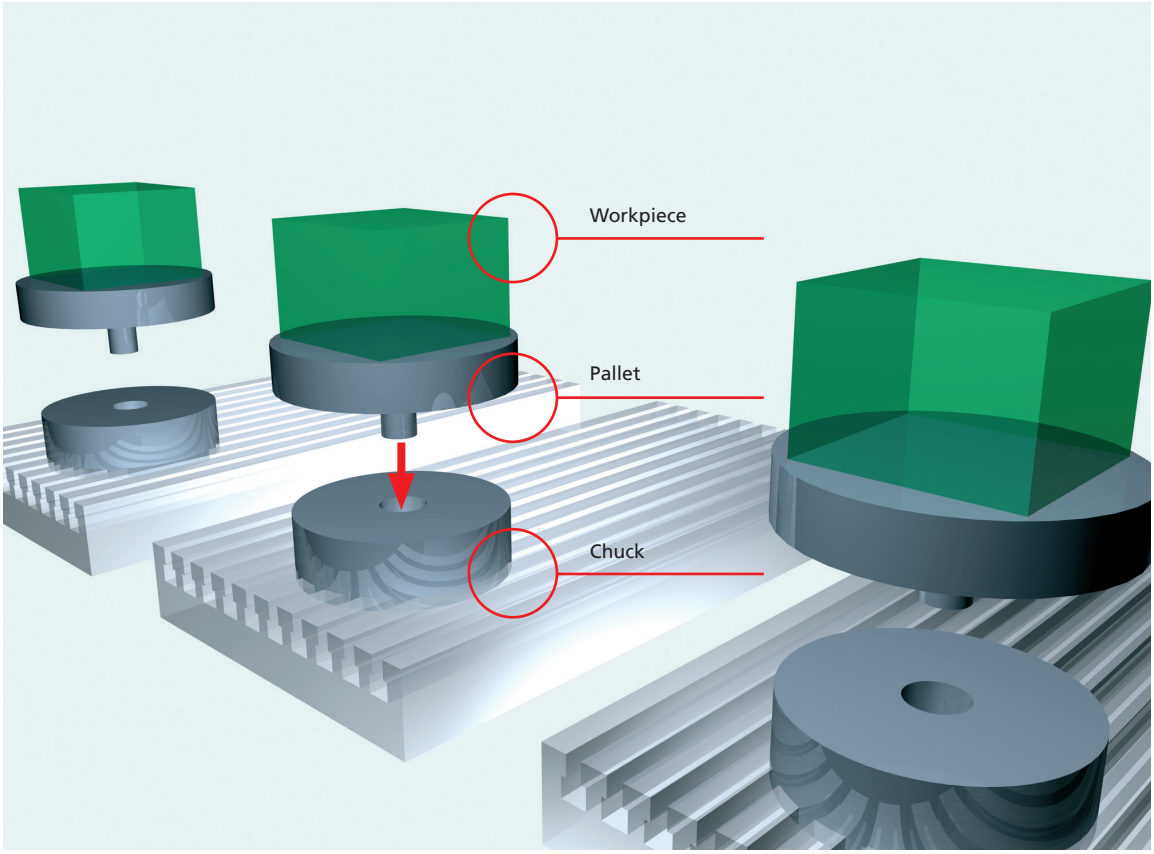


OVERVIEW TABLES

The overview tables that precede the chapters on presetting stations and handling facilities provide you with a quick overview of the properties of the various products.



EROWA Tooling systems



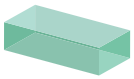
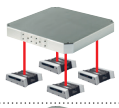
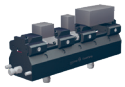
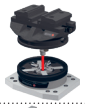
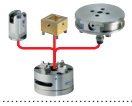
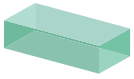
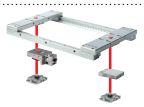
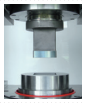
Standardization of mechanical interfaces. The integration of a universal tooling system on all machine tools will significantly reduce any downtimes.

For chip-removing processes

For EDM sinking

For WEDM

EROWA TOOLING SYSTEMS

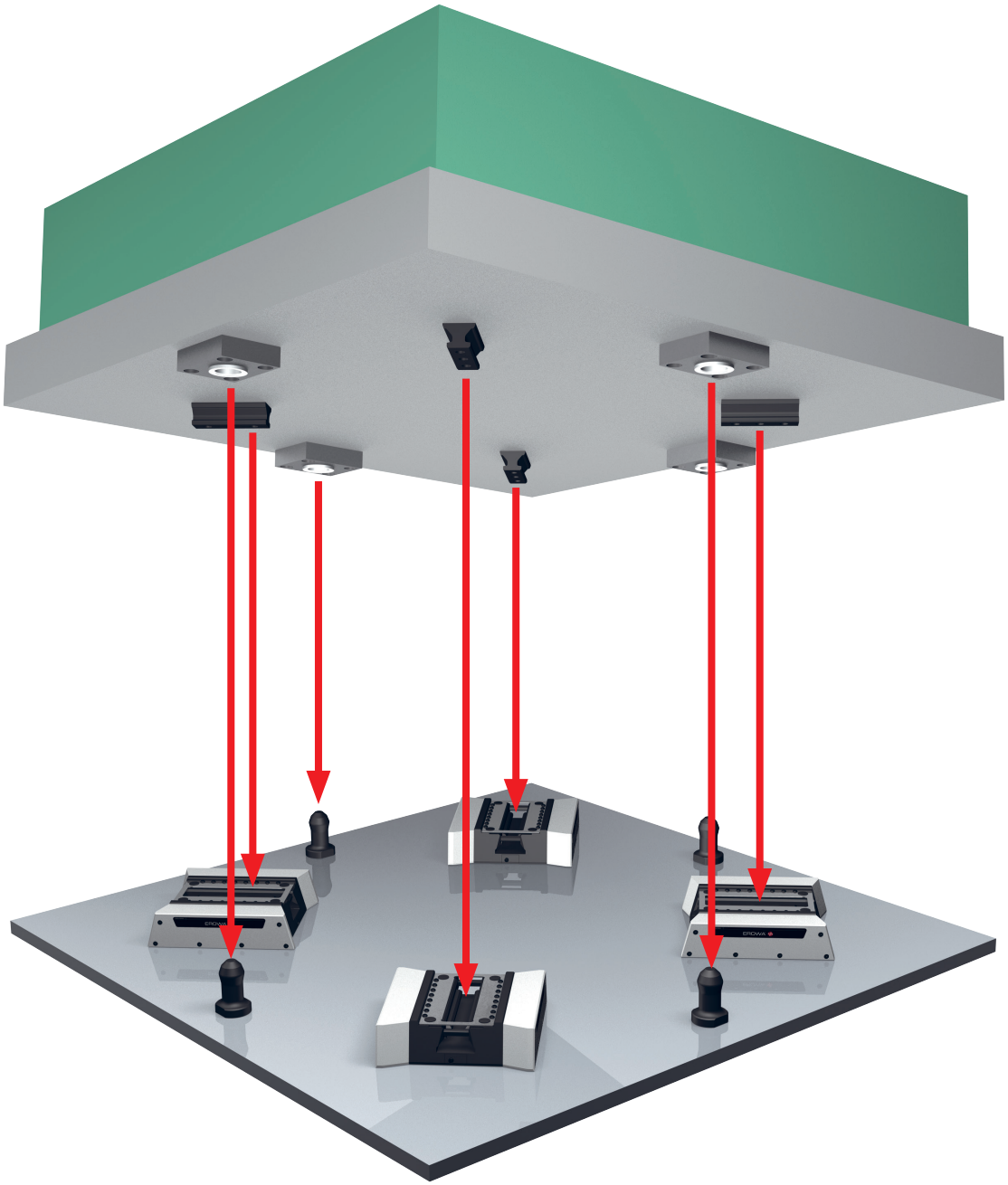
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EROWA HPC HEAVY POWERCHUCK

Large workpieces positioned quickly

Reducing changeover times is also a key issue when setting up and changing over large workpieces. With the new EROWA HPC (Heavy PowerChuck) clamping system, this is accomplished reliably, quickly, and safely.

The EROWA HPC consists of clamping modules, which are positioned exactly as required by the table size of the machine and the optimal size of the pallet. Once installed and aligned on the machine, the palletized workpieces can be positioned quickly and reliably.

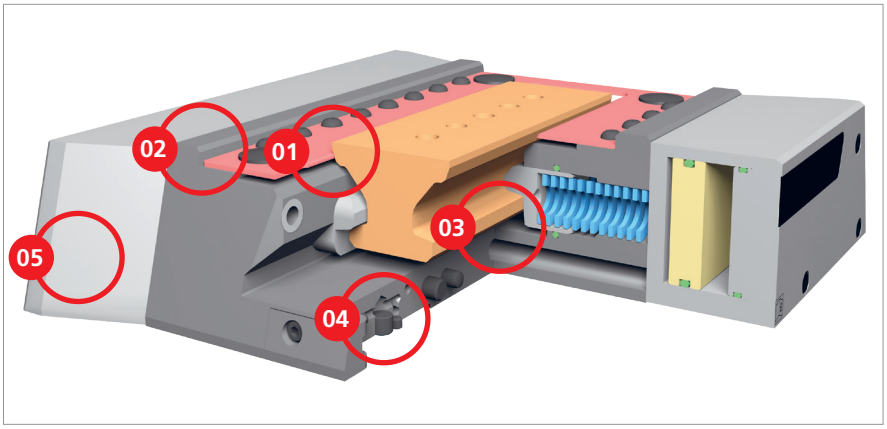


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Centering
The long centering surfaces form axes that can withstand the highest stresses.

02 | Z-supports
The large Z-supports ensure a stable overall system and provide the best possible performance for the large pallets and workpieces.

03 | Clamping mechanism
Reliable clamping mechanism by self-locking system. Solid and low-vibration.

04 | Opening
HPC Clamping modules are operated pneumatically. The clamping modules require only 6 bar opening pressure despite their high clamping power of 40,000 N.

05 | Monitoring
Know for sure when the HPC clamping module is open thanks to integrated open monitoring.

Technical data - HPC Heavy PowerChuck

	HPC Heavy PowerChuck
Clamping power	40,000 N (with reclamping 6 bar)
Recommended workpiece size	depending on the machine table size
Clamping	spring force
Opening	compressed air min. 6 bar
Operation	control unit
Sensor	open monitoring

EROWA HPC in use

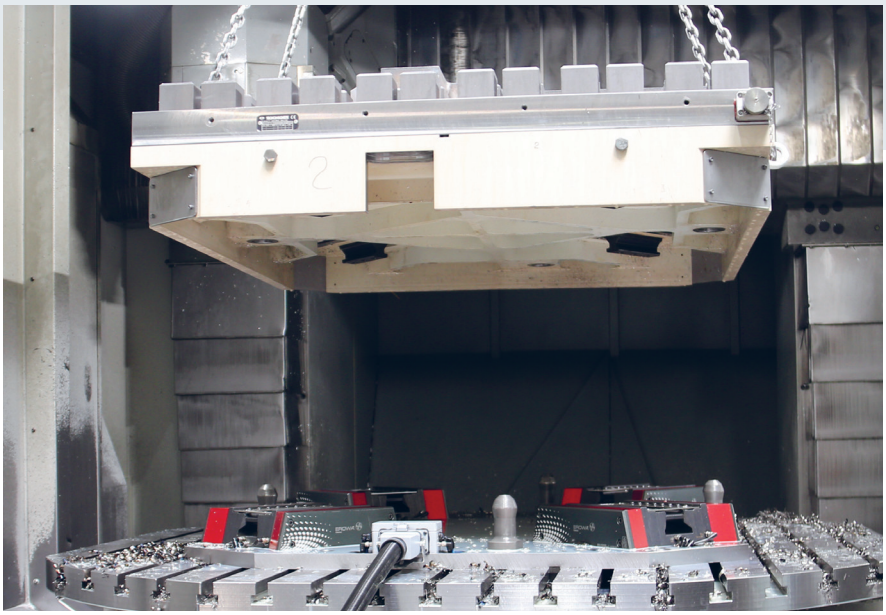
Permanently mounted on the machine

HPC clamping modules are quickly mounted on the machine table and ready for use.



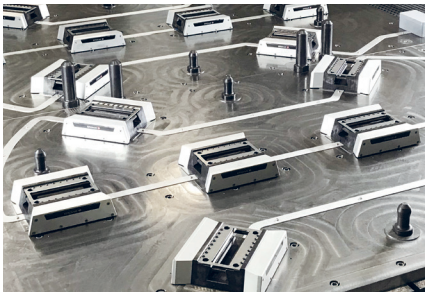
FACTS

- High clamping force
- Pre-centering of pallets
- Modular extensions available
- Integrated open monitoring
- Self-locking clamping mechanism
- Compact design

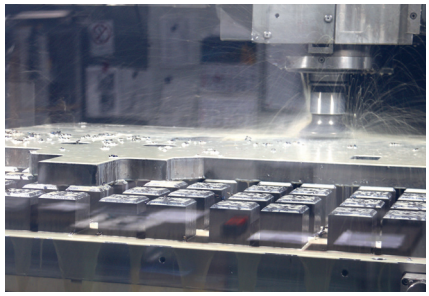


If the pallet is positioned above the HPC clamping modules with a crane, the pre-centering spigots help to locate the end position, protecting the clamping modules against damage.

The pallet is properly aligned from the start. Errors are virtually eliminated. The datum point is retained.



Depending on the pallet size, the system can be extended modularly with 4, 6, 8 or more clamping modules as required.



By closing the HPC clamping modules, the pallet is precisely positioned and securely clamped. The high clamping force of each clamping module meets the toughest of demands.



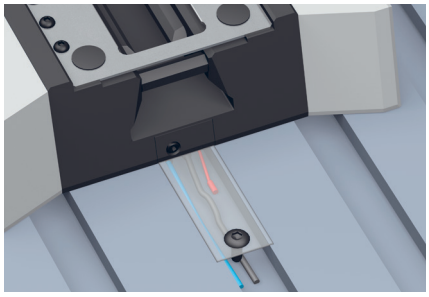
The integrated open monitoring, visual via the HPC control box, indicates that all HPC clamping modules are open. This ensures smooth and safe pallet transfer.



While one workpiece is machined, the operator palletizes and sets up the next workpiece. This significantly reduces machine changeover times.



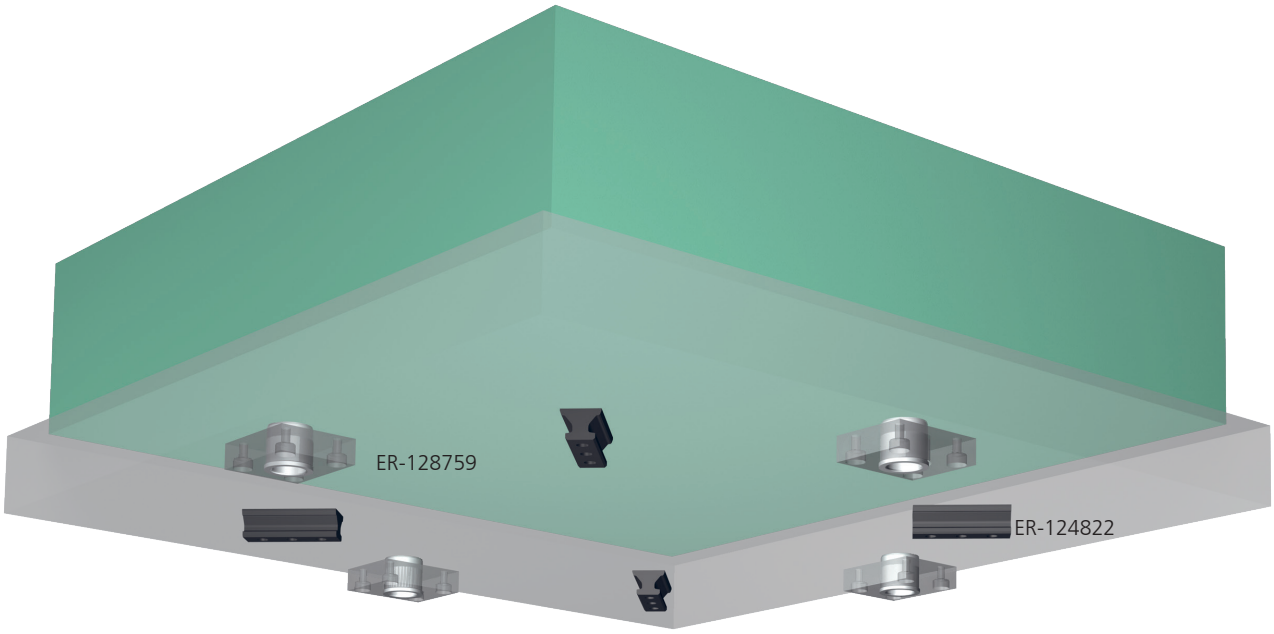
The compact design and low installation height of the clamping modules leave plenty of space for workpieces and their machining.

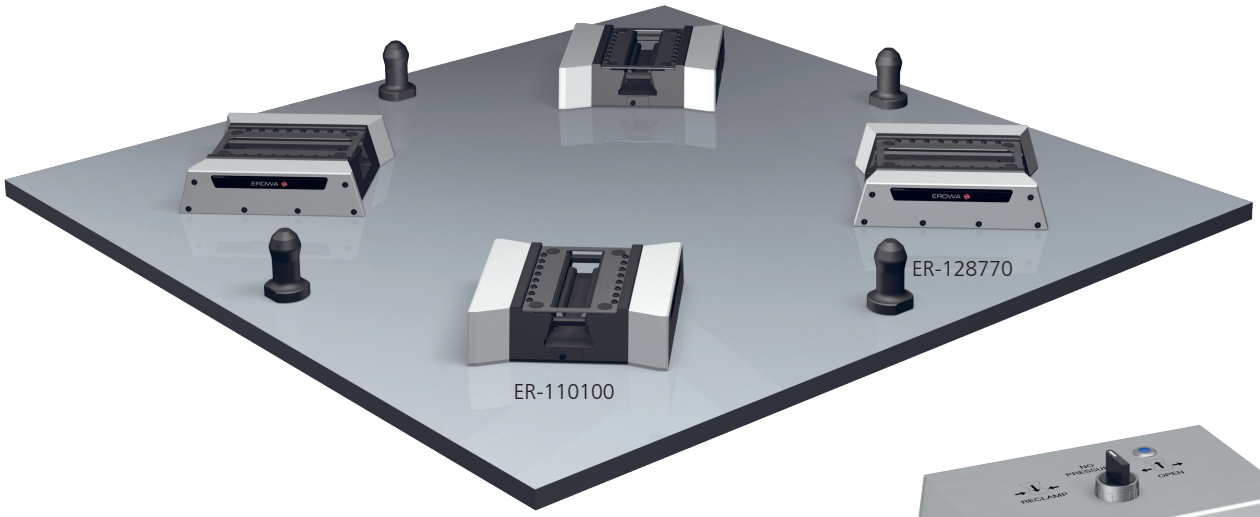


The connections between the HPC clamping modules can be covered with a chip-proof cover or integrated directly into the table structure.

EROWA HPC

The components







ER-131519

To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
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10. Handling with EROWA Robot gripper S
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12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA HPC

HPC	Clamping module	20
HPC	Accessories	20

For chip-removing processes

For EDM sinking

For WEDM

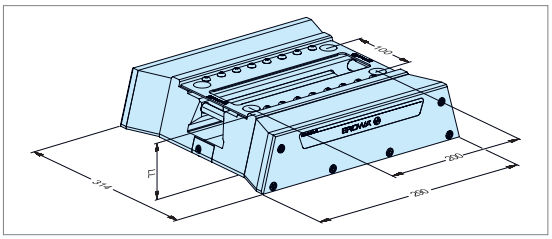
EROWA HPC

Clamping Module

Technical data	HPC Heavy PowerChuck
Clamping Power	40,000 N (with reclamping 6 bar)
Recommended workpiece size	depending on size of machine table
Generated by	spring power
Opening	compressed air, min. 6 bar
Operation	control unit

ER-110100 HPC Clamping Module Heavy PowerChuck

Version	Clamping module for mounting on machine tables or base plates.
Connections	At the sides and bottom: for opening and reclamping (pneumatic) as well as open monitoring (electric).
Application	For holding multiple pallets.
Installation	Mounting hole pattern for tables with T-Slot spacing 100/200 mm or directly on base plates.

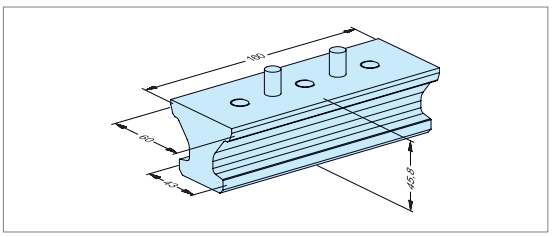


EROWA HPC

Accessories

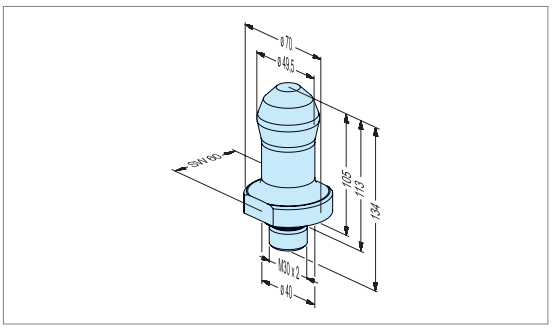
ER-124822 HPC Clamping beam Heavy PowerChuck

Version	1x clamping beam with centering function.
Application	For pallets or workpieces which are clamped in HPC clamping modules.
Installation	With M12 screws through pallet (from above) or M10 screws through clamping beams (from below).



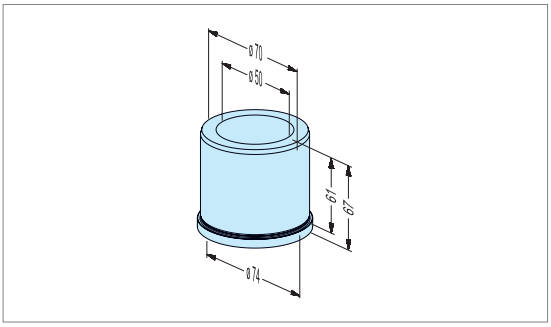
ER-128770 HPC Pre-centering pin

Version	1x pre-centering spigot with M30x2 thread.
Installation	In base plate or machine table.



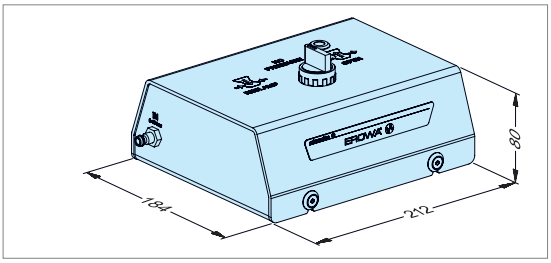
ER-128759 HPC Pre-centering ring DIN 172A 50x67 mm

Version	1x sleeve for pre-centering spigot, hardened, Ground according to DIN 172A.
Installation	In prepared borehole on pallet or workpiece.



ER-131519 Manual control unit HPC with indication open control

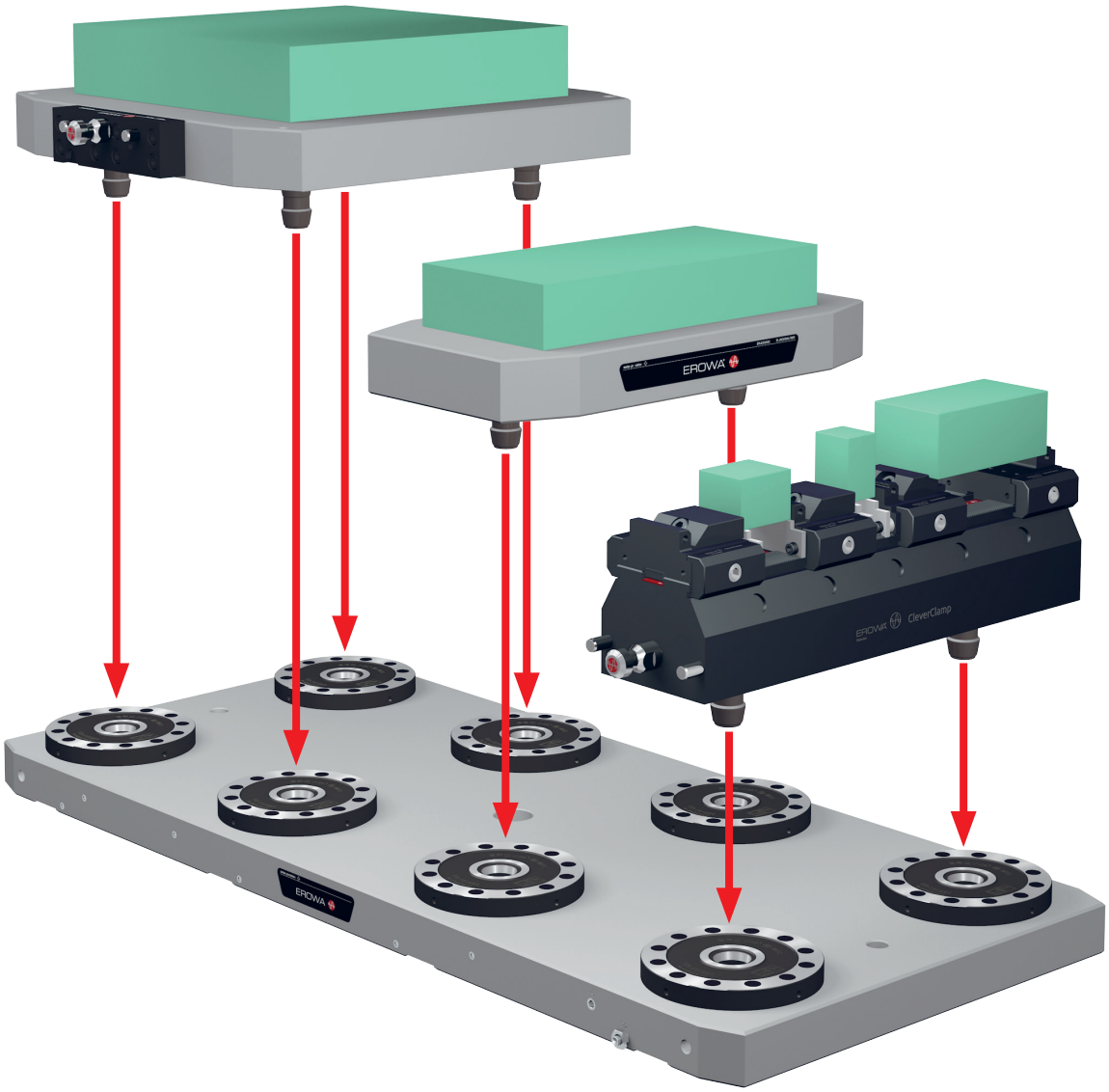
Version	Manual valve used to control HPS clamping modules. Opening / reclamping / open control status: display through electric signal.
Application	Operation of HPC clamping modules.



EROWA MTS

Boost the capacities of your machine tools

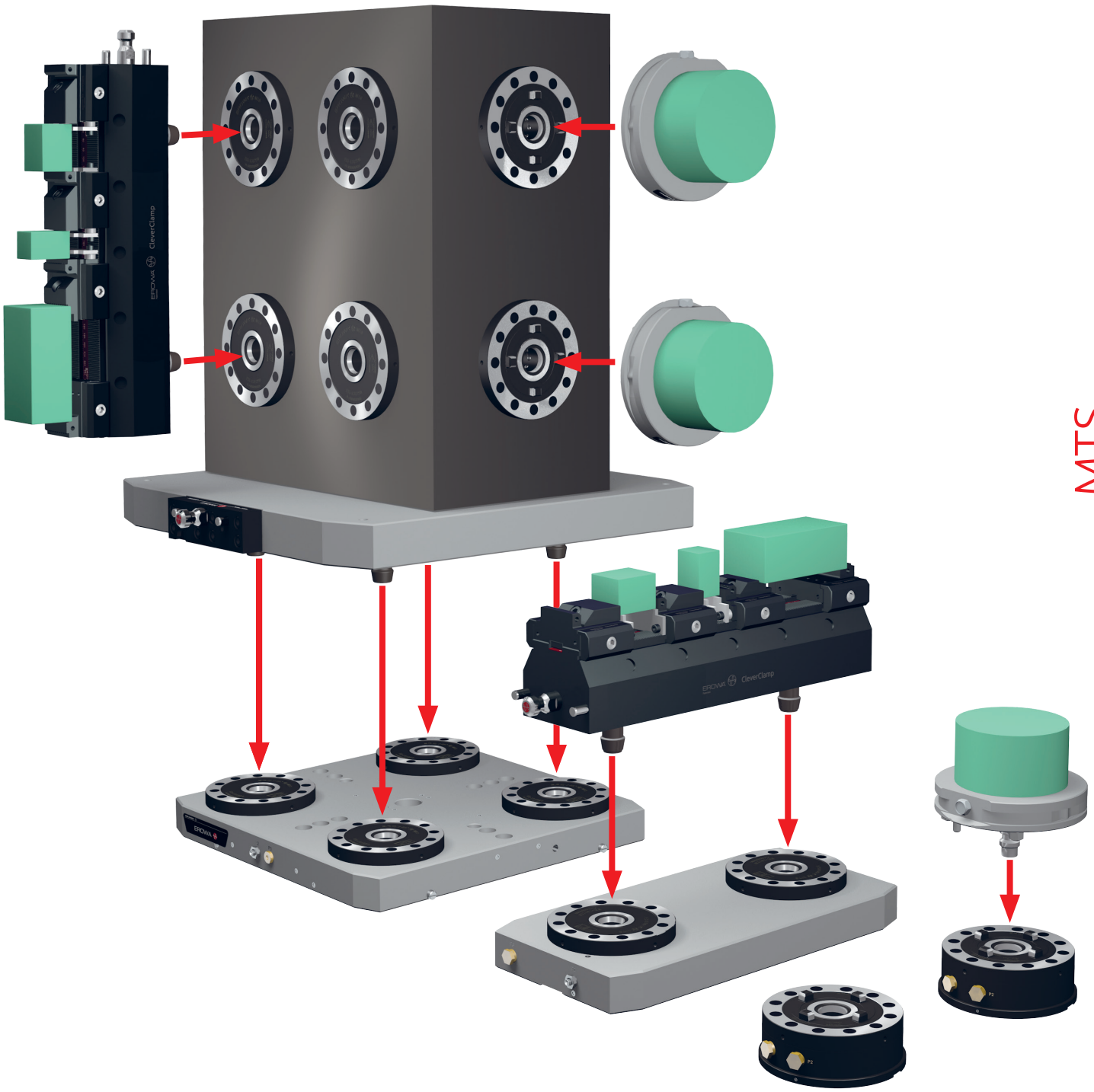
With the use of the MTS datum point system on your machine tool, you will lay the cornerstone for efficient and flexible production. The tooling system serves as a standard interface on all machine tools and measuring stations in the production process.
You can set up new production jobs while your machine is cutting chips. The finished jobs can be replaced with the prepared ones in next to no time. MTS chucks can be loaded manually or automatically. The down-times of the machine are reduced to a minimum.



EROWA MTS

The universal interface

EROWA MTS (Modular Tooling System) stands for absolute modularity and flexibility: whether it's single-part palletizing with an MTS chuck, multiple-part palletizing with MTS base plates or an integration of additional EROWA tooling systems - all combinations are possible.
The maximum workpiece size is mainly determined by the capabilities of the machine.

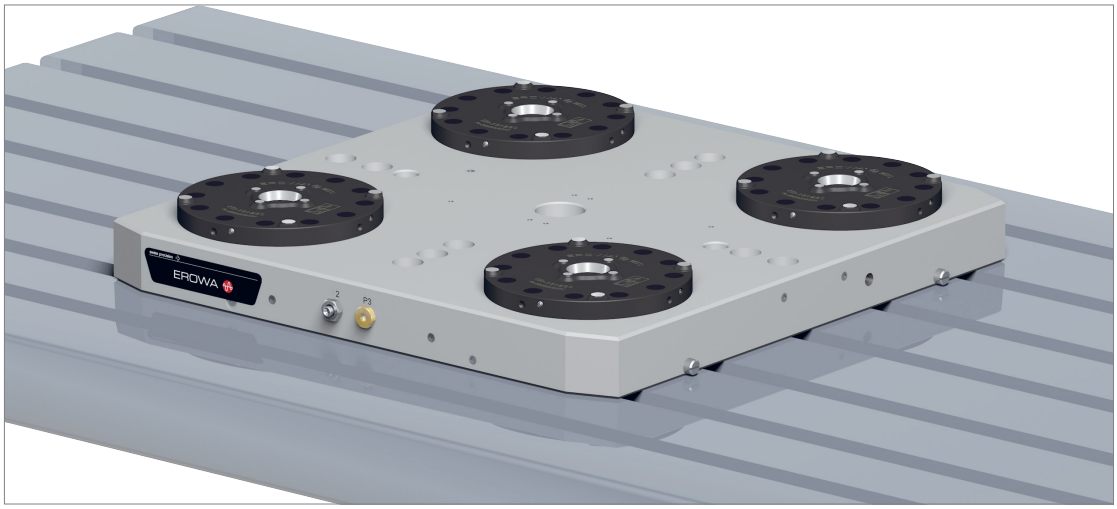


EROWA MTS

Flexible palletizing according to your requirements

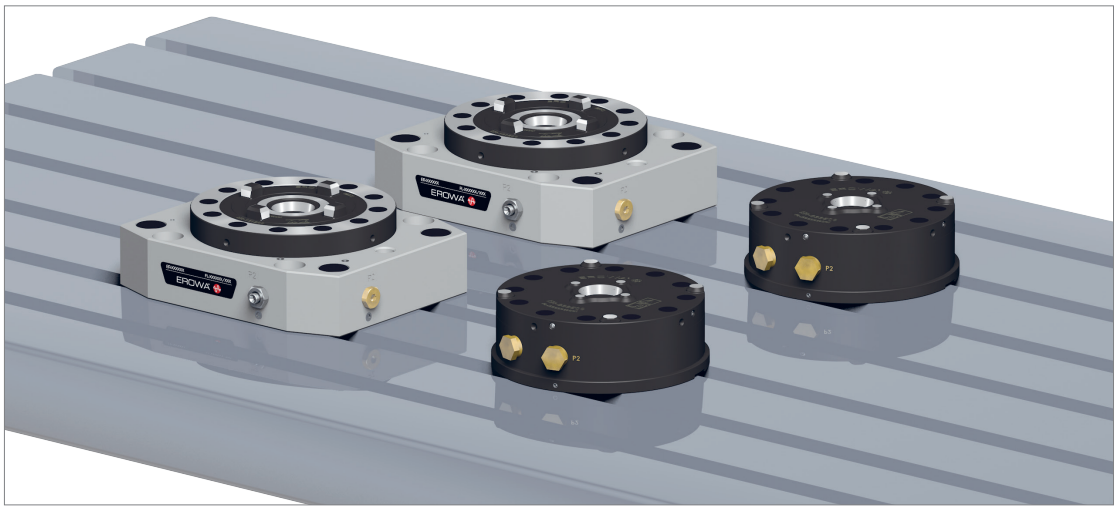
IntegralChucks

MTS IntegralChucks are available in various sizes and versions. The chucks can be integrated into base plates, tombstones or directly into the machine table. The wide range of IntegralChucks are capable of satisfying almost every technical requirement.



Mounted chucks

MTS mounted chucks and single base plates can be arranged on the machine table on their own or in combinations. They are suitable for the clamping of single or multiple pallets and of customized fixtures. The mounted chucks offer you unlimited options.



Combinations and customer requirements

The various MTS base plates and mounted chucks can be combined to create the basis for the clamping of larger MTS pallets. If you can't find the product you require in our standard range, please contact us. We'll work out a suitable solution for you.



Adaptations

With the modular tooling system as the basis on your machine table, you are keeping all your options open. All EROWA's tooling systems such as your workpiece carriers, fixtures, etc. can be adapted to MTS. Active tooling systems can be controlled via media feed-through. EROWA MTS will guarantee you the highest degree of flexibility.



EROWA MTS

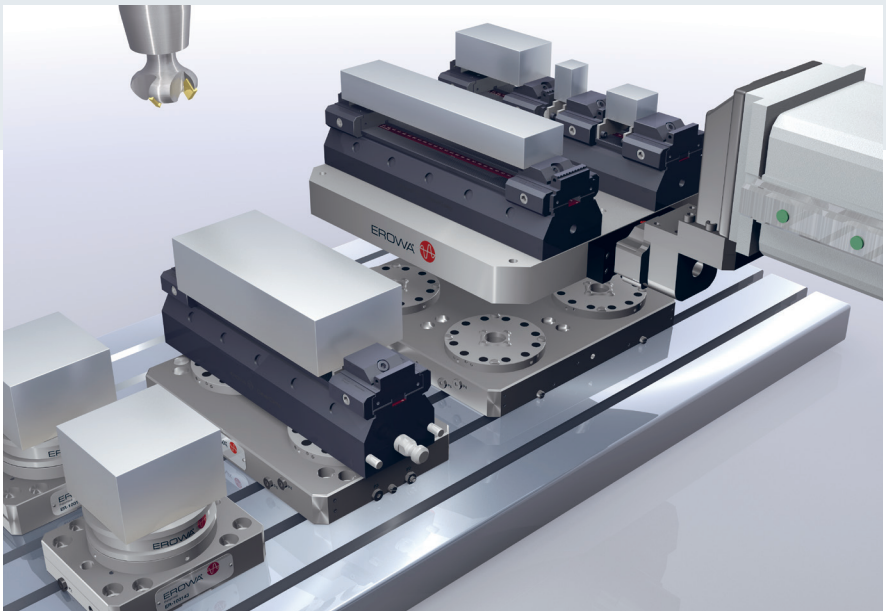
The datum point tooling system for your production

The flexible operation of the EROWA MTS tooling system is revealed in practice. No matter whether it is a standard solution or a customer-specific configuration, the system can be adapted to practically any machine situation. The system interchangeability enables a wide variety of workpiece carriers to exchange at lightning speed. The automatic workpiece change can be retrofitted at any time.

FACTS

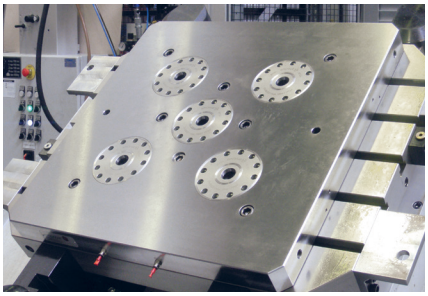
- Universal and modularly extendable
- Single and multiple palletization
- Low profile
- High clamping power
- Repeatability < 0.003 mm
- Can be automated
- Reliable and durable



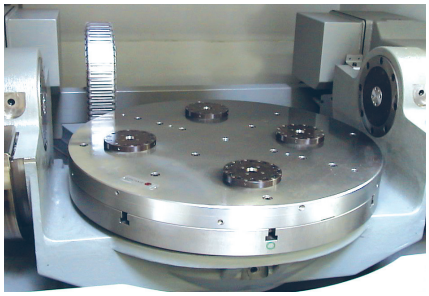


MTS base plates are the flexible and precise interface for single or multiple palletization.

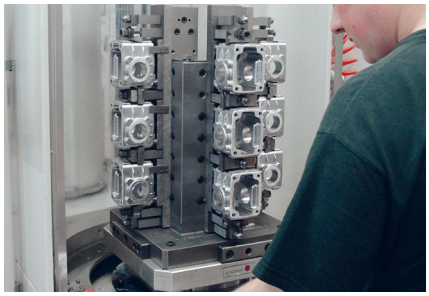
MTS base plates are available in various versions, depending on the model with 1, 2, 4, 6 or 8 MTS chucks. We would also be pleased to advise you with regard to customized versions.



The time-tested and versatile datum point tooling system enables pallets to be exchanged within seconds with a repeatability of < 0.003 mm.



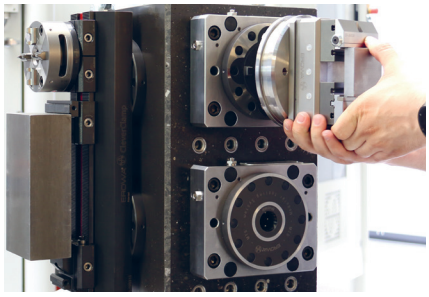
The low profile of the tooling system leaves a great deal of space for workpieces and their machining process. MTS chucks can be attached to the machine table or directly integrated in it.



Workpieces and fixtures are palletized outside the machine. In this way, they can be put on the machine without any further alignment. Thanks to the MTS chucks, they are clamped in their positions on the table with precision and stability.



Existing vises, gauges and fixtures are equipped with chucking spigots or palletized. In this way, they are immediately integrated in the entire MTS system.



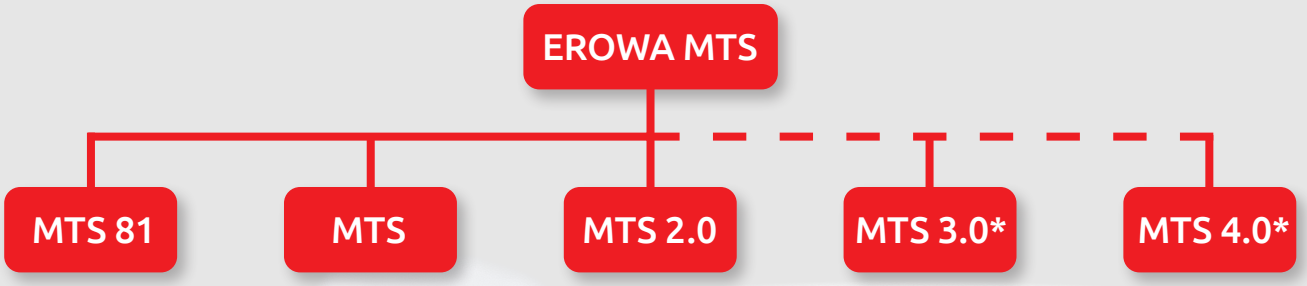
The EROWA mineral-cast tombstone provides a great deal of space for the simultaneous setting-up of different workpieces. The entire working space of the machine is optimally exploited with the use of a tombstone.



The MTS system is perfectly suitable for automatic pallet change. During the change process, the support surfaces of the chucks, pallets and chucking spigots are automatically cleaned. The MTS pallets are neatly and precisely positioned.

EROWA MTS

The various EROWA MTS tooling systems: an overview

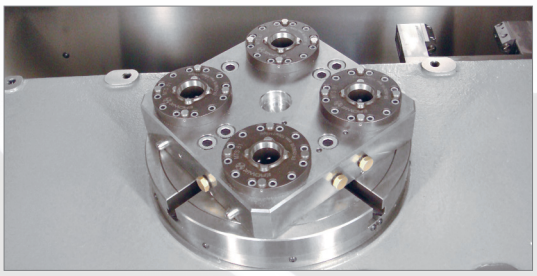


***MTS 3.0** und **MTS 4.0** extend the product range and guarantee a superior security standard (for example, suitable for milling/turning and 5-axis applications). Solutions with MTS 3.0 and MTS 4.0 are worked out in relation to individual projects. For further information and product catalogs, please contact your specialist EROWA dealer.

EROWA MTS 81

Small design, high clamping power

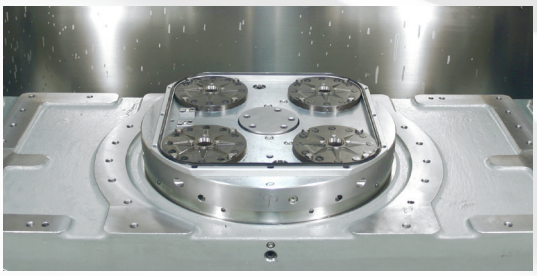
MTS 81 is used wherever the available space is limited - without, however, having to forfeit the advantages of the datum point system and a high degree of clamping power..



EROWA MTS

The universal interface

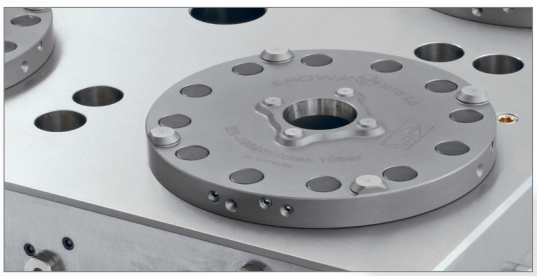
Used thousands of times and tested in practice, the MTS datum point tooling system has become indispensable for chip-cutting machining and for EROWA›s product portfolio.



EROWA MTS 2.0

The datum point tooling system for the highest standards

With the integrated open check and the increased clamping power of 20kN, the MTS 2.0 chucks satisfy the highest standards in the production environment. If you opt for MTS 2.0, you will have a premium product at an attractive price!



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA MTS

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EROWA MTS 81

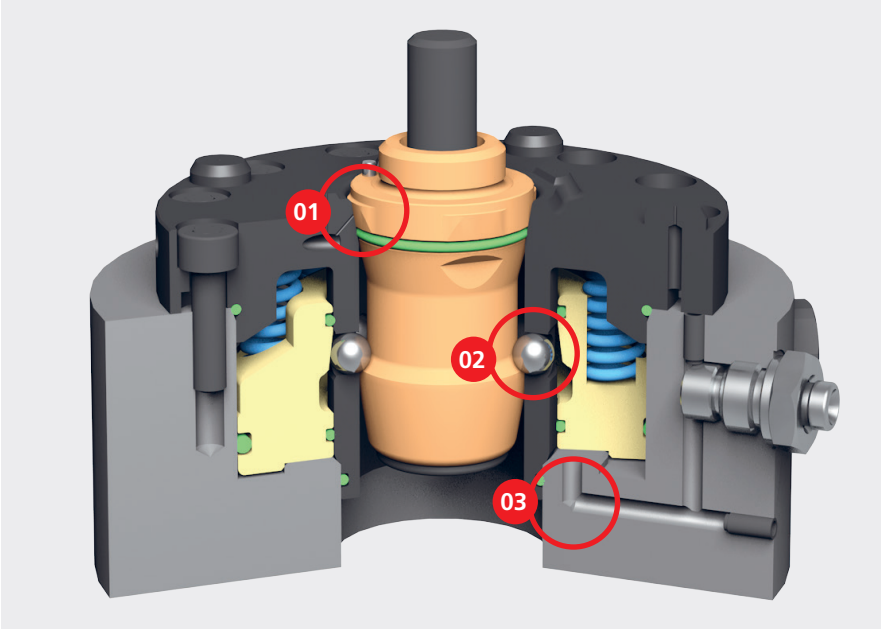
Small size, high clamping power!

Applications

Handling

Manual / Loading facility / Robot

Function MTS 81 Chuck



FACTS

- Compact design
- With reclamping function
- High clamping power of 10,000 N
- Precise
- Reliable
- Safe through self-locking system

01 | Precise
Play-free, conical centering.
Repeatability: < 0.003 mm.
Easy insertion of the pallets without any jamming.

02 | Clamping mechanism
Reliable clamping mechanism through self-locking ball lock. Stable, low level of vibration.

03 | Open
MTS 81 chucks are operated pneumatically.

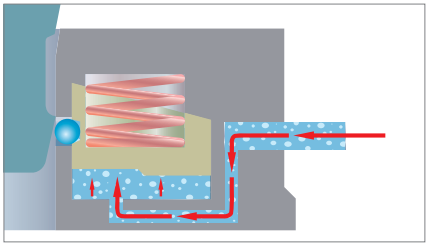
compatible with
- MTS 81
- MTS
- MTS 2.0
- MTS+



Technical data - MTS 81

	MTS 81
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 8.5 bar (pneumatic)
Monitoring	combined locking & presence check (pneumatic)
Clamping power with reclamping	10,000 N/chuck
Holding power	> 60,000 N/chuck
Reclamp	yes
Clamping cycles	> 500,000

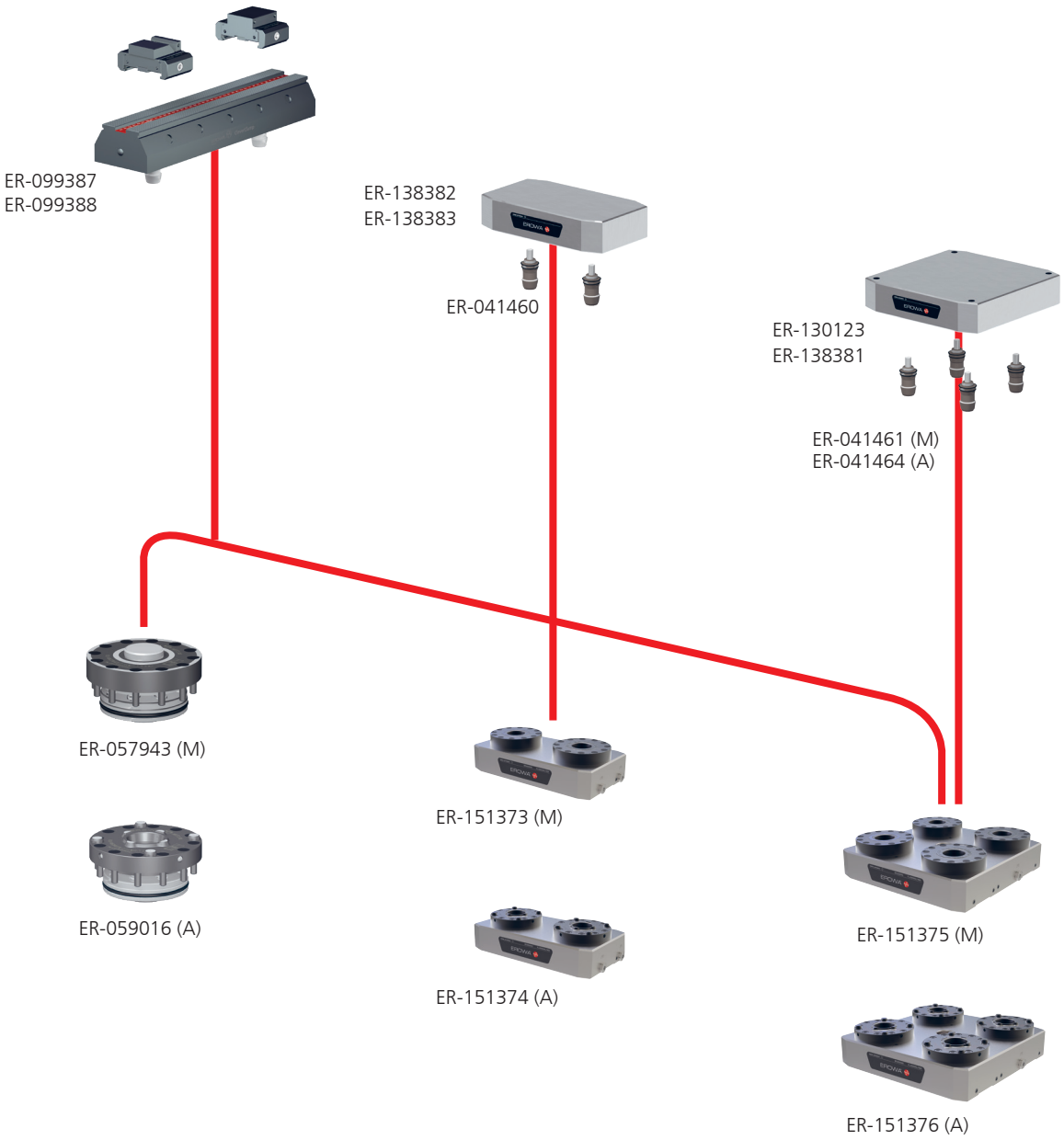
Power package
A reclamping feature provides up to 10,000 N of clamping power.
The chucks are opened pneumatically.



EROWA MTS 81

The components

CleverClamp System:
see page 90



(M) = manual
(A) = automatic

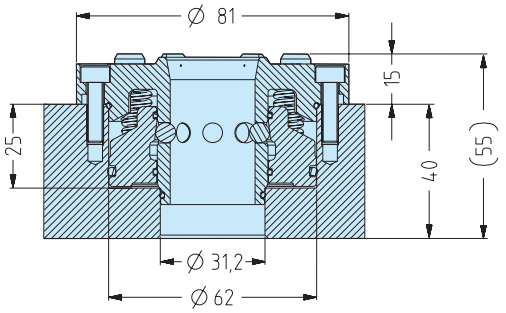
EROWA MTS 81

Integral chucks

Technical data	MTS 81 integral chucks pneumatic
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 8.5 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power with reclamping	up to 10,000 N/chuck

M = Multi
P = pneumatically operated
A = able to automate

Integration variant applicable to MTS 81 IntegralChucks. Observe tolerances according to integration instructions!

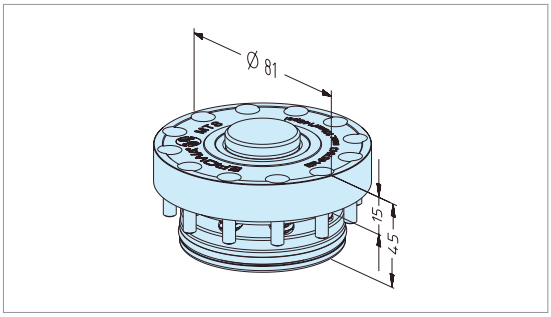


ER-057943 MTS 81 IntegralChuck M-P





Version	To be fitted directly into machine tables, plates, tombstones, squares or dividing heads. Suitable for manual loading.
Connections	2 pneumatic connections: one for opening and one for reclamping.
Application	To accommodate multiple pallets.

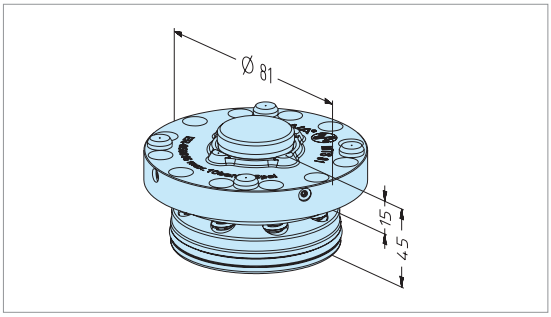


ER-059016 MTS 81 IntegralChuck M-P/A





Version	To be fitted directly into machine tables, plates, tombstones, squares or dividing heads. Suitable for automatic loading.
Connections	3 pneumatic connections: one for opening, one for reclamping, and one for presence check and cleaning.
Application	To accommodate multiple pallets.



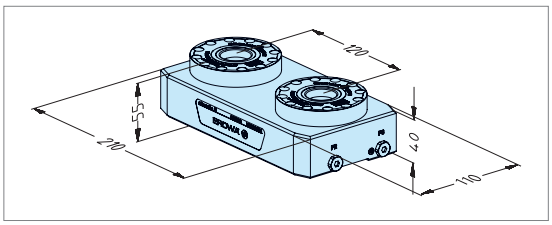
EROWA MTS 81

Base plates, 2-fold

Technical data	MTS 81 Base plates, 2-fold pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	1 x 180°
Clamping	Spring tension
Opening pressure	min. 8.5 bar
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power with reclamping	up to 20,000 N (2 x 10,000 N)

P = pneumatically operated
A = able to automate

ER-151373 MTS 81 base plate 110 x 210 P Pitch 120

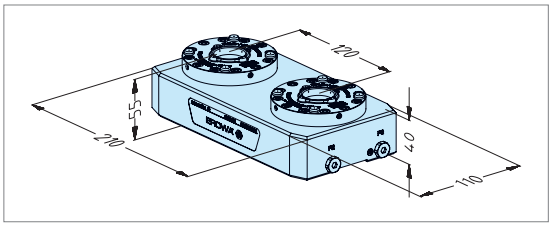


Version	Base plate, steel, unhardened; Pitch: 120 mm.
Connections	Lateral, 2 pieces (pneumatic): for opening and reclamping.
Application	To accommodate 2-fold pallets. For direct assembly on machine tables.
Accessories supplied	2 x ER-014326 threaded connector, straight, ø 6 2 x ER-002675 plugs, ø 6 1 x ER-014324 threaded connector, straight, ø 4 1 x ER-002673 plug, ø 4
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please order operating instructions from your specialist EROWA dealer.

EROWA MTS 81

Base plates, 2-fold, automatable

ER-151374 MTS 81 base plate 110 x 210 P/A Pitch 120



Version	Base plate, steel, unhardened; Pitch: 120 mm.
Connections	Lateral, 3 pieces (pneumatic): for opening, reclampging and cleaning / presence check.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories supplied	2 x ER-014326 threaded connector, straight, ø 6 2 x ER-002675 plugs, ø 6 1 x ER-014324 threaded connector, straight, ø 4 1 x ER-002673 plug, ø 4
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please order operating instructions from your specialist EROWA dealer.

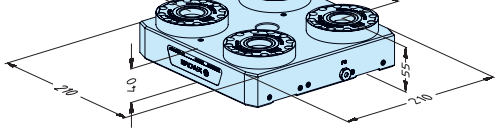
EROWA MTS 81

Base plates, 4-fold

Technical data	MTS 81 Base plates, 4-fold pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	4 x 90°
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 8.5 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power with reclamping	up to 40,000 N (4 x 10,000 N)

ER-151375 **MTS 81 base plate 210 x 210 P Pitch 120**





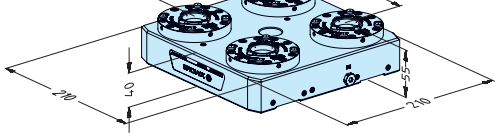
Version	Base plate, steel, unhardened; Pitch: 120 mm.
Connections	Lateral, 2 pieces (pneumatic): for opening and reclamping.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories supplied	2 x ER-014326 threaded connector, straight, ø 6 2 x ER-002675 plugs, ø 6 1 x ER-014324 threaded connector, straight, ø 4 1 x ER-002673 plug, ø 4
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please order operating instructions from your specialist EROWA dealer.

EROWA MTS 81

Base plates, 4-fold, automatable

ER-151376 **MTS 81 base plate 210 x 210 P/A Pitch 120**





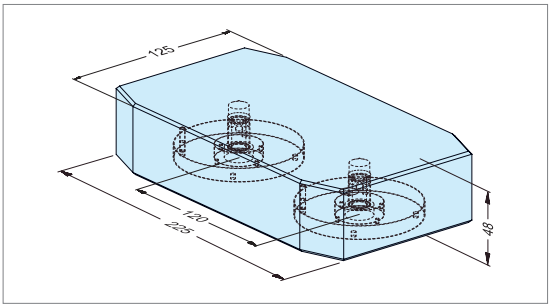
Version	Base plate, steel, unhardened; Pitch: 120 mm.
Connections	Lateral, 3 pieces (pneumatic): one for opening, reclamping and cleaning / presence check.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories supplied	2 x ER-014326 threaded connector, straight, ø 6 2 x ER-002675 plugs, ø 6 1 x ER-014324 threaded connector, straight, ø 4 1 x ER-002673 plug, ø 4
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please order operating instructions from your specialist EROWA dealer.

EROWA MTS 81

Pallets

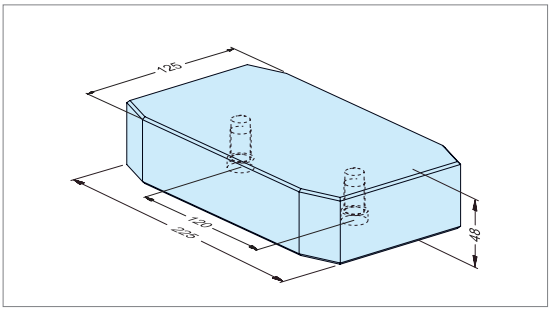
ER-138382 **MTS 81 palett 125 x 225 / 120 Hard Z support**

Version	Aluminum pallet, 2-fold, pitch 120mm. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Drill hole pattern according to requirements.
Accessories	MTS chucking spigot set ER-041460.



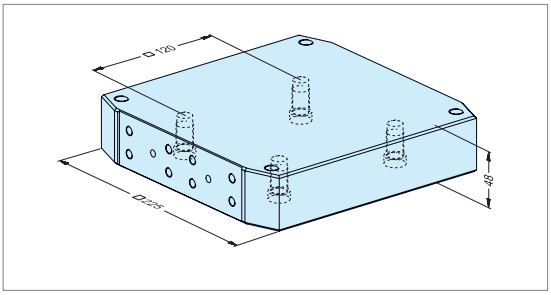
ER-138383 **MTS 81 pallet 125x225/120**

Version	Aluminum pallet, 2-fold, pitch 120mm. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Drill hole pattern according to requirements.
Accessories	MTS chucking spigot set ER-041460



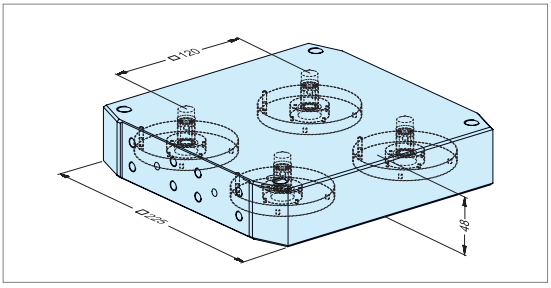
ER-138381 **MTS 81 pallet 225x225/120**

Version	Aluminum pallet, 4-fold, pitch 120mm. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Drill hole pattern according to requirements.
Accessories	MTS chucking spigot set ER-041461(M) or ER-041464(A), as well as MTS GripperLink ER-038622.



ER-130123 **MTS 81 pallet 225 x 225 / 120 hard Z support**

Version	Aluminum pallet, 4-fold, pitch 120mm. With hard Z supports. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Drill hole pattern according to requirements.
Accessories	MTS chucking spigot set ER-041461(M) or ER-041464(A), as well as MTS GripperLink ER-038622.



Note: You will find the MTS chucking spigots overview starting on page: 61.

EROWA MTS

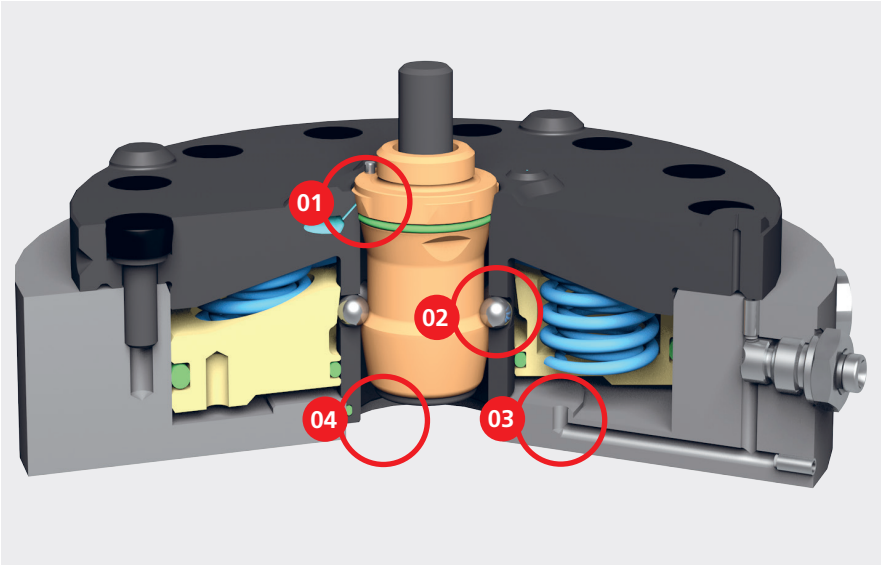
The universal interface

Applications

Handling

Manual / Loading facility / Robot

Function MTS Chuck



FACTS

- Tested in practice 10,000 times
- Repeatability < 0.003 mm
- High clamping power of 12,000 N
- Durable and reliable
- With ceramic balls

01 | Precise
Play free, conical centering.
Repeatability: <0.003 mm.
Easy insertion of the pallets without any jamming.

02 | Clamping mechanism
Reliable clamping mechanism through self-locking ball lock. Stable, low level of vibration.

03 | Open
MTS chucks are available as pneumatic and hydraulic versions.

04 | Cleanliness
Liquids can drain off. No dirt traps.

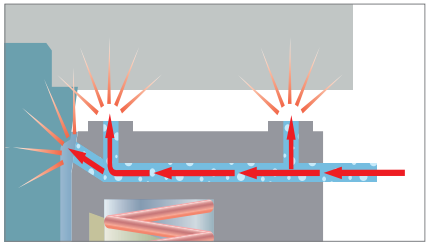
compatible with
- MTS 81
- MTS
- MTS 2.0
- MTS+



Technical data - MTS

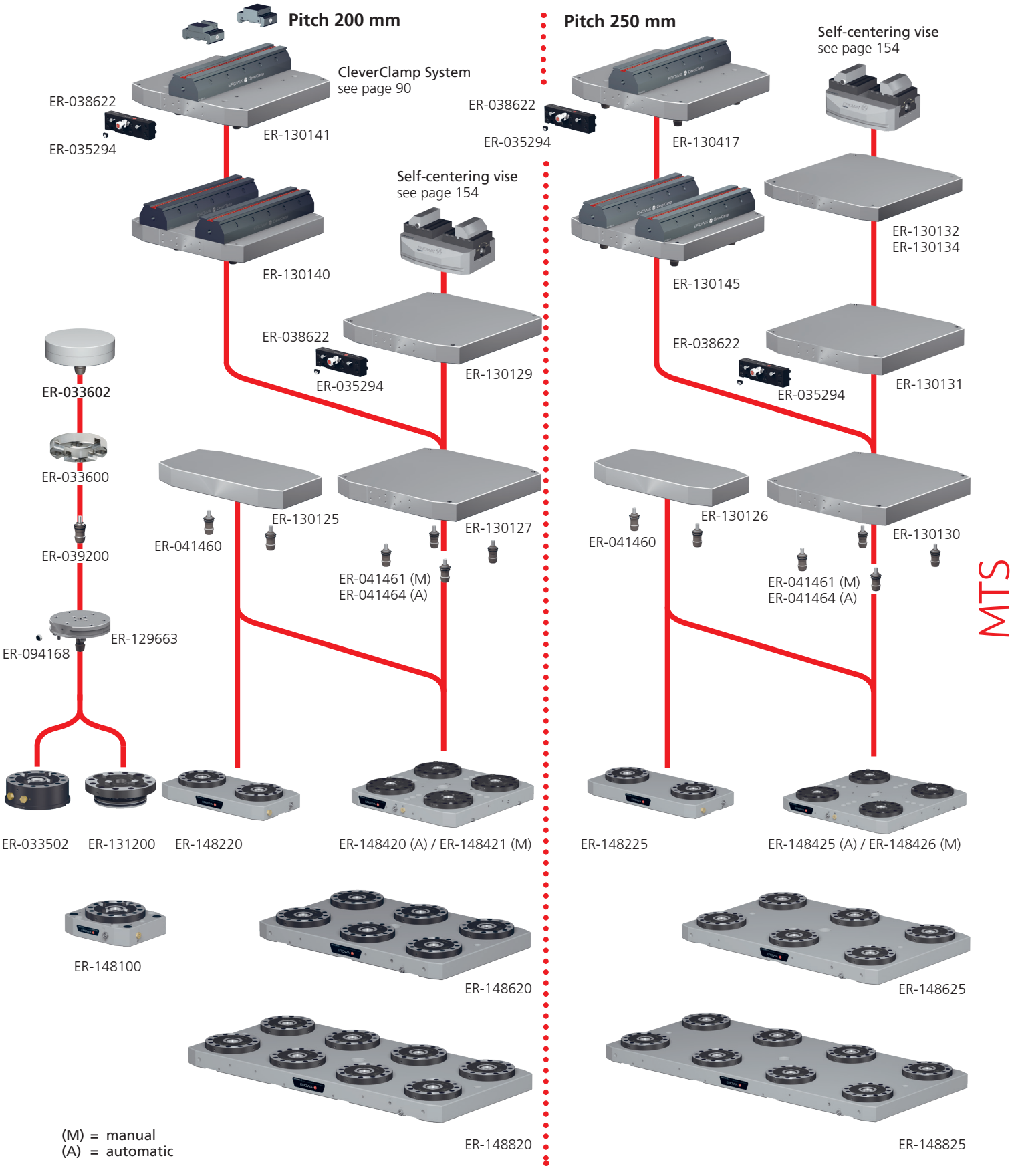
	MTS
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power	12,000 N/chuck
Holding power	> 60,000 N/chuck
Reclamp	no
Clamping cycles	> 500,000

MTS chuck, automatable
Automatic cleaning of contact surfaces and of the centering spigot cone while the workpiece is changed.



EROWA MTS

The components



MTS

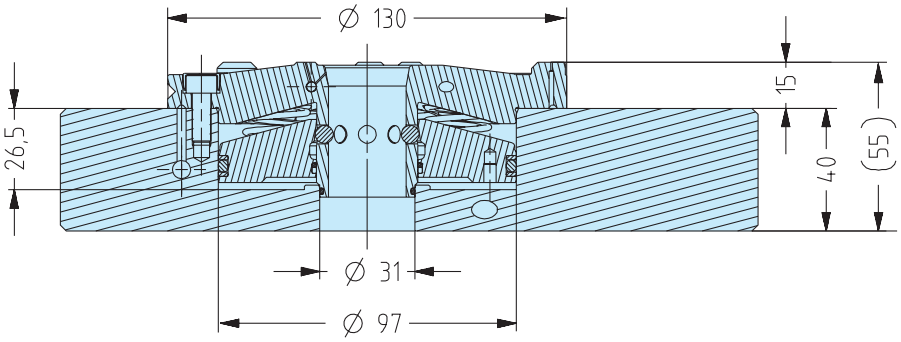
EROWA MTS

Integral chucks

Technical data	MTS integral chucks pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	4 x 90° (MTS IntegralChuck S)
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power	12,000 N/chuck

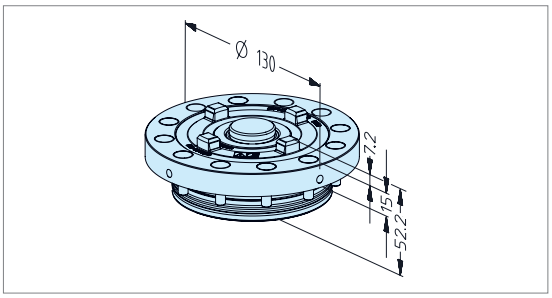
S = Single
M = Multi
P = pneumatically operated
A = able to automate

Fitting variant for MTS IntegralChuck.
Pay attention to the tolerances according to operating instructions!



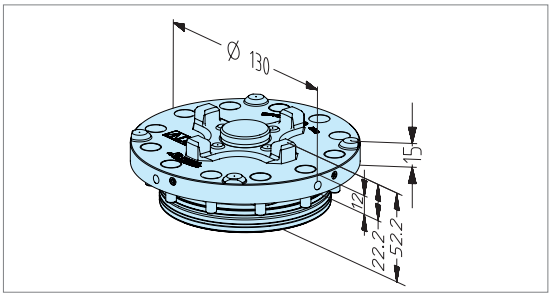
ER-131200 MTS IntegralChuck S-P

Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	1 pneumatic connection: for opening.
Application	To accommodate single or multiple pallets



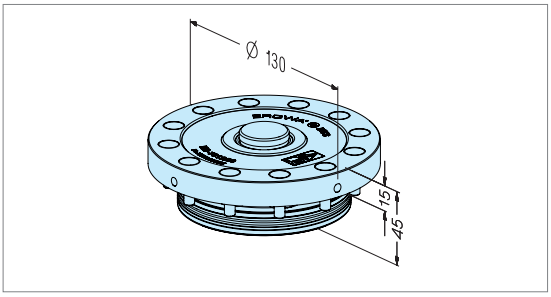
ER-131210 MTS IntegralChuck S-P/A

Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	2 pneumatic connections: for opening and cleaning / presence check.
Application	To accommodate single or multiple pallets.



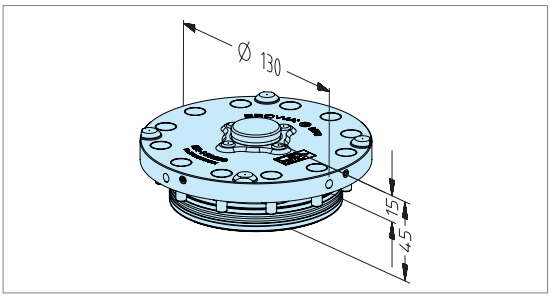
ER-033240 MTS IntegralChuck M-P

Version: For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections: 1 pneumatic connection: for opening.
Application: To accommodate multiple pallets.



ER-131230 MTS IntegralChuck M-P/A

Version: For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections: 2 pneumatic connections: for opening and cleaning / presence check.
Application: To accommodate multiple pallets.



EROWA MTS

Mounted chucks

Technical data	MTS mounted chucks pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	4 x 90° (MTS Chuck S)
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power	12,000 N/Chuck

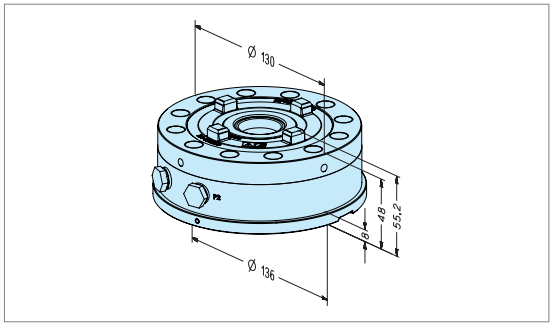
S = Single
M = Multi
P = pneumatically operated
A = able to automate

ER-033502 MTS Chuck S-P





Version	For direct mounting on machine tables, plates, tombstones, squares, etc.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate single or multiple pallets.
Accessories	Order separately for chuck fitting: MTS bracket ER-033804 or ER-033805.

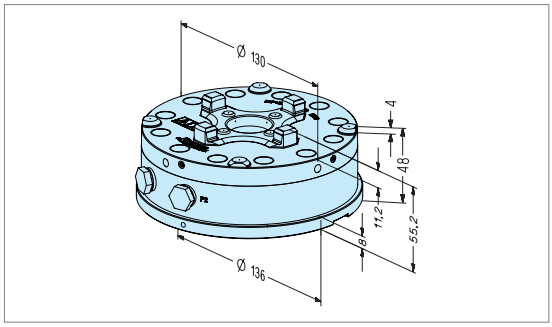


ER-035502 MTS Chuck S-P/A



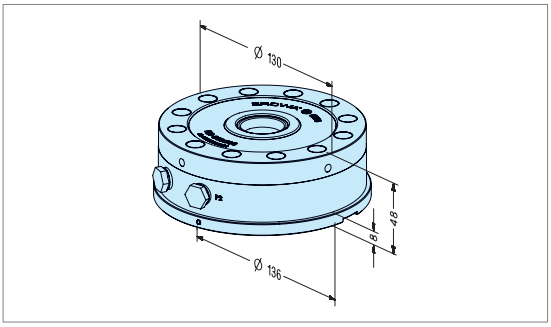


Version	For direct mounting on machine tables, plates, tombstones, squares etc.
Connections	Lateral, 2 pieces (pneumatic): for opening and cleaning / presence check.
Application	To accommodate single or multiple pallets.
Accessories	Order separately for chuck fitting: MTS bracket ER-033804 or ER-033805.



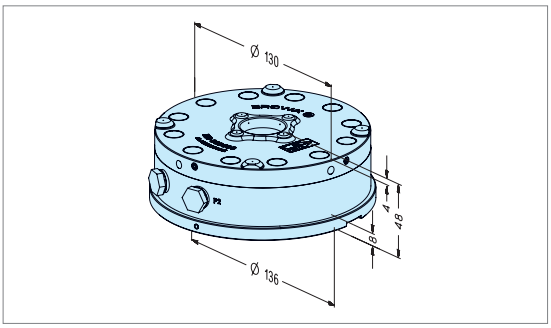
ER-033500 MTS Chuck M-P

Version	For direct mounting on machine tables, plates, tombstones, squares, etc.
Connections	Lateral, 1 piece (pneumtatic): for opening.
Application	To accommodate multiple pallets.
Accessories	Order separately for chuck fitting: MTS bracket ER-033804 or ER-033805.



ER-035500 MTS Chuck M-P/A

Version	For direct mounting on machine tables, plates, tombstones, squares etc.
Connections	Lateral, 2 pieces (pneumatic): for opening and cleaning / presence check.
Application	To accommodate multiple pallets.
Accessories	Order separately for chuck fitting: MTS bracket ER-033804 or ER-033805.



EROWA MTS

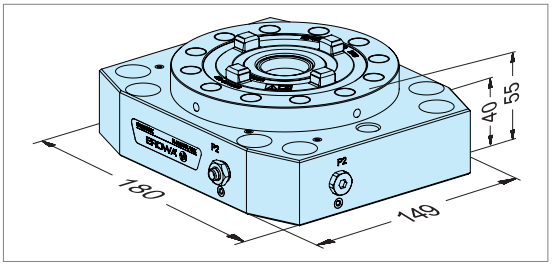
Base plates, 1-fold

Technical data	MTS base plates, 1-fold pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	4 x 90° (MTS Chuck S)
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Clamping power	12,000 N

S = Single
M = Multi
P = pneumatically operated

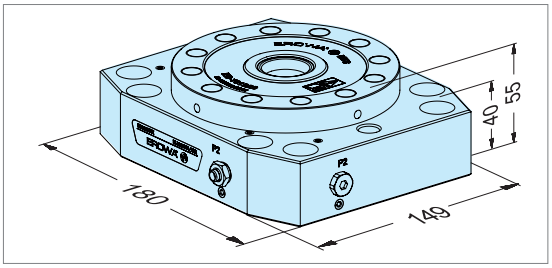
ER-148100 MTS base plate 149 x 180 S-P 1-fold

Version	Baseplate, steel unhardened.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate single and multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.



ER-148101 MTS base plate 149 x 180 M-P 1-fold

Version	Baseplate, steel unhardened.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.



EROWA MTS

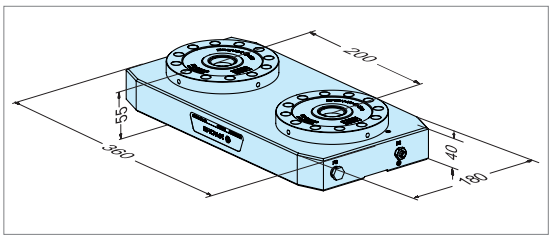
Base plates, 2-fold

Technical data	MTS base plates, 2-fold pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	1 x 180°
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Clamping power	24,000 N (2 x 12,000 N)

P = pneumatically operated

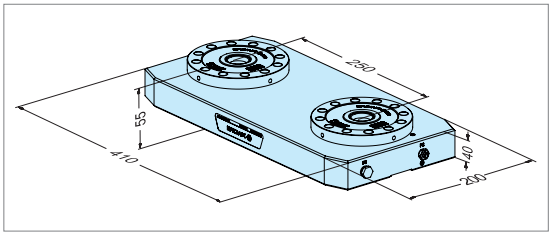
ER-148220 MTS base plate 180 x 360 P Pitch 200

Version	Base plate, steel, unhardened. Pitch: 200 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate 2-fold pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



ER-148225 MTS base plate 200 x 410 P Pitch 250

Version	Base plate, steel, unhardened. Pitch: 250 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate 2-folt pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



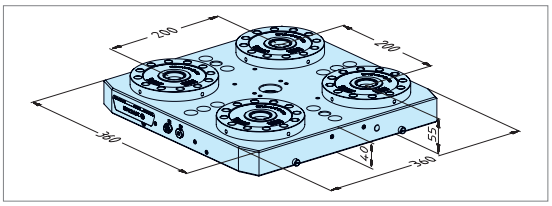
EROWA MTS

Base plates, 4-fold

Technical data	MTS base plates, 4-fold pneumatic
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Clamping power	48,000 N (4 x 12,000 N)

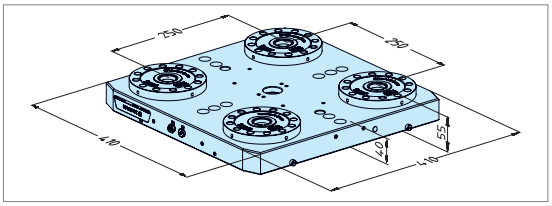
P = pneumatically operated

ER-148421 MTS base plate 360 x 360 P Universal, pitch 200



Version	Base plate universal, steel unhardened, pitch 200mm. Including adapter flange without air boreholes.
Connections	Lateral, 1 piece (pneumatic): for opening.
Option	Control from underneath possible with the relevant adapter flange (available on request).
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

ER-148426 MTS base plate 410 x 410 P Universal, pitch 250



Version	Base plate universal, steel unhardened, pitch 250mm. Including adapter flange without air boreholes.
Connections	Lateral, 1 piece (pneumatic): for Opening.
Option	Control from underneath possible with the relevant adapter flange (available on request).
Application	To accommodate multiple pallets. For direct mounting on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

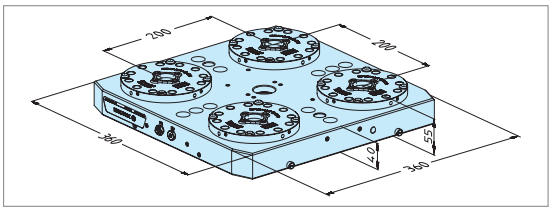
EROWA MTS

Base plates, 4-fold, automatable

Technical data	MTS base plates, 4-fold, pneumatic, automatable
	Repeatability < 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Monitoring (Chuck P/A)	combined locking & presence check (pneumatic)
Clamping power	48,000 N (4 x 12,000 N)

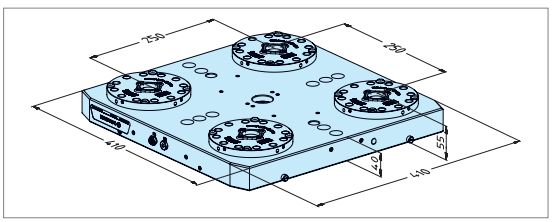
P = pneumatically operated
A = able to automate

ER-148420 MTS base plate 360 x 360 P/A Universal, pitch 200



Version	Base plate universal, steel unhardened, pitch 200mm. Including Adapter flange without air boreholes.
Connections	Lateral, 2 pieces (pneumatic): for opening and and cleaning/presence check.
Option	Control from underneath possible with the relevant adapter flange (available on request).
Application	To accommodate multiple pallets. For direct mounting on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

ER-148425 MTS base plate 410 x 410 P/A Universal, pitch 250



Version	Base plate universal, steel unhardened, pitch 250mm. Including adapter flange without air boreholes.
Connections	Lateral, 2 pieces (pneumatic): for opening and cleaning/presence check.
Option	Control from underneath possible with the relevant adapter flange (available on request).
Application	To accommodate multiple pallets. For direct mounting on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

EROWA MTS

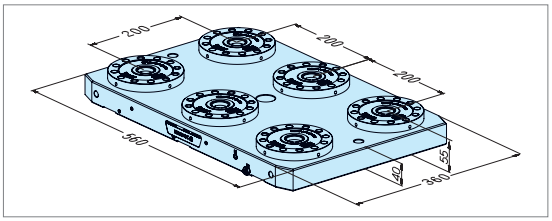
Base plates, 6-fold

Technical data	MTS base plates, 6-fold pneumatic
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Clamping power	72,000 N (6 x 12,000 N)

P = pneumatically operated

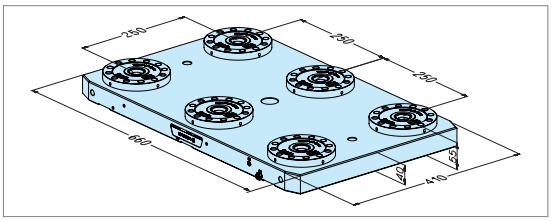
ER-148620 MTS base plate 360 x 560 Pitch 200

Version	Base plate, steel, unhardened. Pitch: 200 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



ER-148625 MTS base plate 410 x 660 P Pitch 250

Version	Base plate, steel, unhardened. Pitch: 250 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



EROWA MTS

Base plates, 8-fold

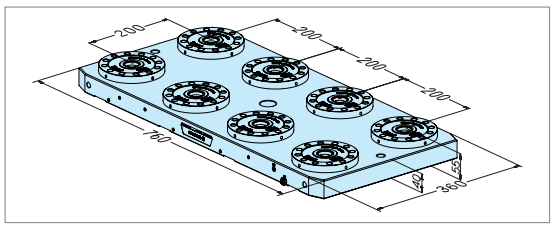
Technical data	MTS base plates, 8-fold pneumatic
Repeatability	<0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 7 bar (pneumatic)
Clamping power	96,000 N (8 x 12,000 N)

P = pneumatically operated

ER-148820 MTS base plate 360 x 760 P
Pitch 200



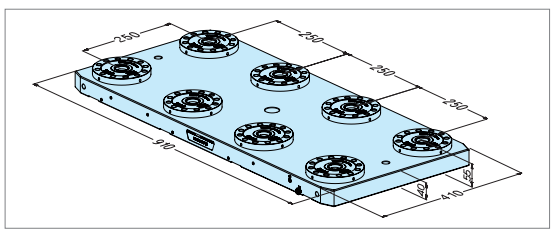
Version	Base plate, steel, unhardened. Pitch: 200 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



ER-148825 MTS base plate 410 x 910 P
Pitch 250



Version	Base plate, steel, unhardened. Pitch: 250 mm.
Connections	Lateral, 1 piece (pneumatic): for opening.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air ducts! Please check operating instructions.



EROWA MTS 2.0

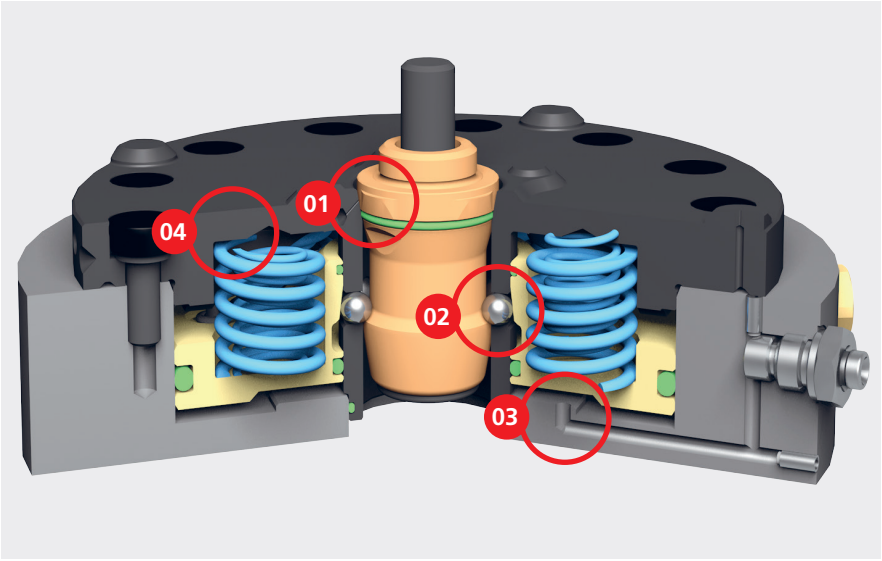
The datum-point system for the highest demands

Applications

Handling

Manual / Loading facility / Robot

Function MTS 2.0 Chuck



FACTS

- Repeatability < 0.003 mm
- Power pack: 20,000 N clamping power
- Only 6 bar opening pressure
- With open check
- Ceramic balls
- Rust-resistant

01 | High precision
Play free, conical centering.
Repeatability: < 0.003 mm.
Easy insertion of the pallets without any jamming.

02 | Clamping mechanism
Reliable clamping mechanism through self-locking ball lock.
Stable, low level of vibration.

03 | Open
MTS 2.0 chucks are operated pneumatically. The chucks require only 6 bar opening pressure despite their high clamping power of 20,000 N.

04 | Open monitoring
Know for sure when the MTS 2.0 chuck is open thanks to integrated open monitoring.

Technical data - MTS 2.0

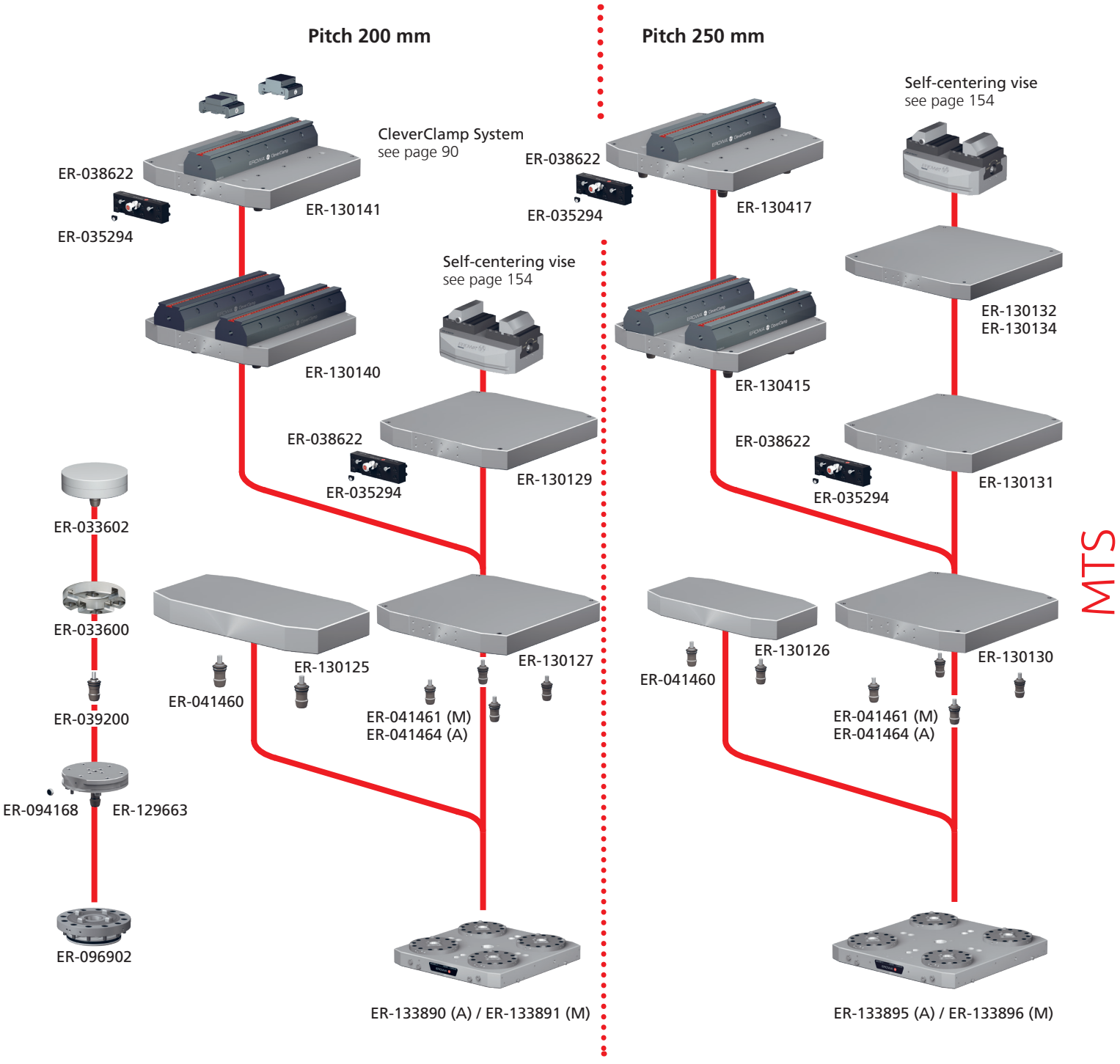
	MTS 2.0
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Reclamp pressure	max. 6 bar
Monitoring	open check and combined locking & presence check (pneumatic)
Clamping power	9,000 N/Chuck (spring tension)
with reclamping	20,000 N/Chuck
Holding power	> 60,000 N/Chuck
Reclamp	yes
Clamping cycles	> 500,000
Material	INOX

compatible with
- MTS 81
- MTS
- MTS 2.0
- MTS+



EROWA MTS 2.0

The components



(M) = manual
(A) = automatic

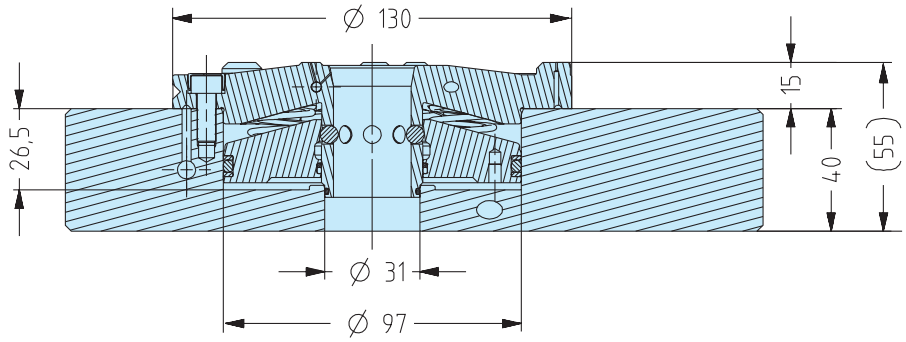
EROWA MTS 2.0

Integral chucks

Technical data	MTS 2.0 integral chuck, pneumatic
Repeatability	< 0.003 mm
Indexation, pallet	4 x 90° (MTS 2.0 IntegralChuck S)
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Monitoring	open check and combined locking & presence check (pneumatic)
Clamping power	9,000 N (spring tension)
with reclamping	20,000 N

S = Single
M = Multi
P = pneumatically operated
A = able to automate

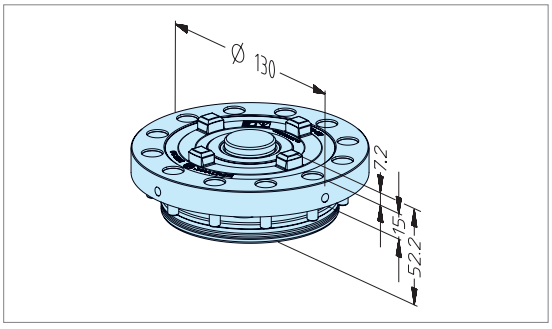
Fitting variant for MTS IntegralChuck.
Pay attention to the tolerances according to operating instructions!



ER-096902 MTS 2.0 IntegralChuck S-P



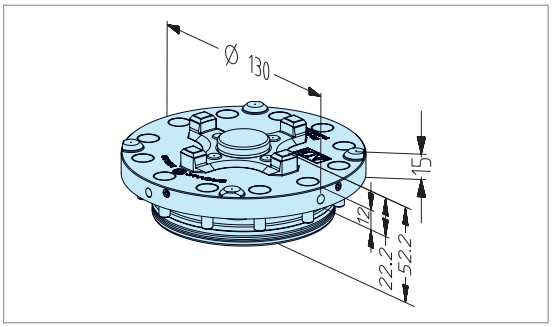
Version	For attachment to machine tables, plates, tombstones,angles or dividing heads.
Connections	3 pneumatic connections: for opening, reclamping and the open check.
Application	To hold individual and multiple pallets.



ER-096903 MTS 2.0 IntegralChuck S-P/A

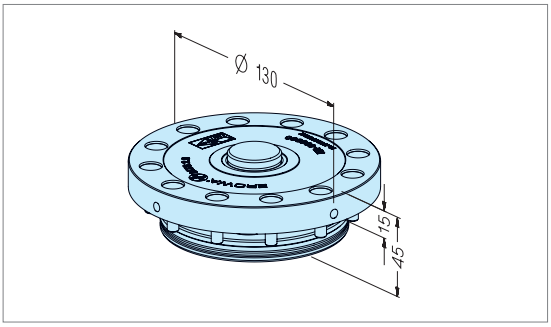


Version	For direct attachment to machine tables, plates, tombstones or dividing heads.
Connections	4 pneumatic connections: for opening, cleaning/presence checks, reclamping and the open check.
Application	To hold individual and multiple pallets.



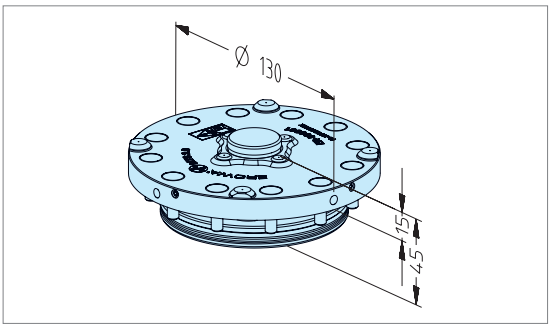
ER-096900 MTS 2.0 IntegralChuck M-P

Version	For direct attachment to machine tables, plates, tombstones or dividing heads.
Connections	3 pneumatic connections: for opening, reclamping and the open check.
Application	To hold multiple pallets.



ER-096901 MTS 2.0 IntegralChuck M-P/A

Version	For direct attachment to machine tables, plates, tombstones, angles or dividing heads.
Connections	4 pneumatic connections: for opening, cleaning/presence check, reclamping and the open check.
Application	To hold multiple pallets.



EROWA MTS 2.0

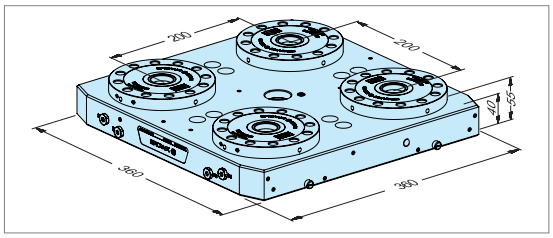
Base plates, 4-fold

Technical data	MTS base plate 2.0, 4-fold, pneumatic
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Clamping power	36,000 N (4 x 9,000 N) (spring tension)
with reclamping	80,000 N (4 x 20,000 N)

P = pneumatically operated

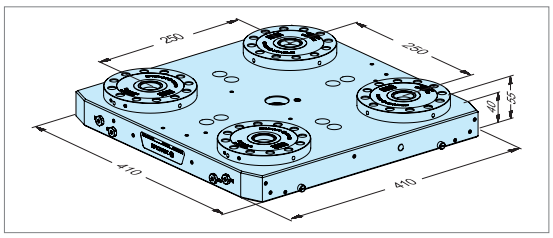
PC* = pitch circle

ER-133891 **MTS 2.0 base plate 360 x 360 P**
Universal, pitch 200



Version	Base plate universal, steel unhardened, pitch 200mm. Including adapter flange with air boreholes.
Connections	Laterally and from underneath on PC* ø57mm: for opening, reclamping and open check.
Option	Customized adapter flange available on request.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

ER-133896 **MTS 2.0 base plate 410 x 410 P**
Universal, pitch 250



Version	Base plate universal, steel unhardened, pitch 250mm. Including adapter flange with air boreholes.
Connections	Laterally and from underneath on PC* ø57mm: for opening, reclamping and open check.
Option	Customized adapter flange available on request.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

EROWA MTS 2.0

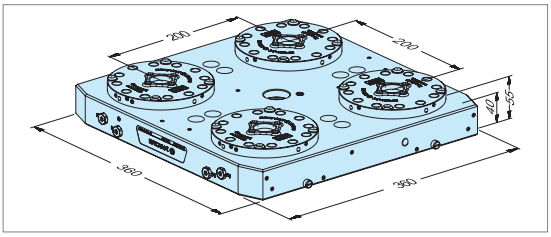
Base plates, 4-fold, automatable

Technical data	MTS 2.0 base plate universal, 4-fold, pneumatic, pneumatic
Repeatability	< 0.003 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Monitoring (Chuck P/A)	open check and combined locking & presence check (pneumatic)
Clamping power	36,000 N (4 x 9,000 N) (spring tension)
with reclamping	80,000 N (4 x 20,000 N)

P = pneumatically operated
A = able to automate

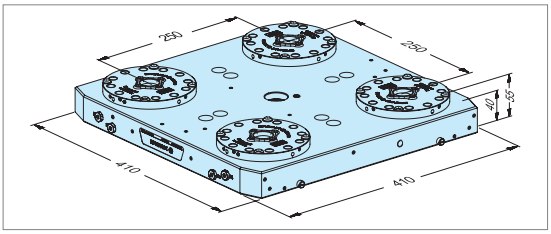
PC* = pitch circle

ER-133890 MTS 2.0 base plate 360 x 360 P/A Universal, pitch 200



Version	Base plate universal, steel unhardened, pitch 200mm. Including adapter flange with air boreholes.
Connections	Laterally and from underneath on PC* ø57mm: for opening, reclamping, open check and for cleaning/ presence check.
Option	Customized adapter flange available on request.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

ER-133895 MTS 2.0 base plate 410 x 410 P/A Universal, pitch 250



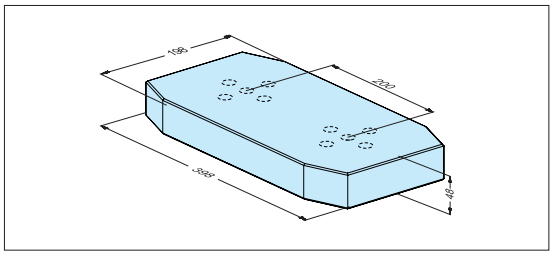
Version	Base plate universal, steel unhardened, pitch 250mm. Including adapter flange with air boreholes.
Connections	Laterally and from underneath on PC* ø57mm: for opening, reclamping, open check and for cleaning/ presence check.
Option	Customized adapter flange available on request.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
To fit	Mounting hole pattern for grid 50mm/M12 and for machine tables with T-slot distances of 63 and 100mm.

EROWA MTS

Pallets

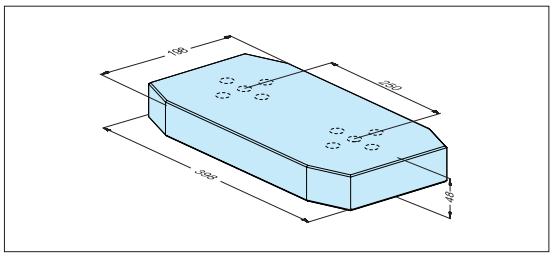
ER-130125 MTS pallet 198 x 398 / 200

Version: Aluminum pallet, 2-fold, pitch 200mm. Excluding chucking spigots.
Application: To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories: MTS chucking spigot set ER-041460



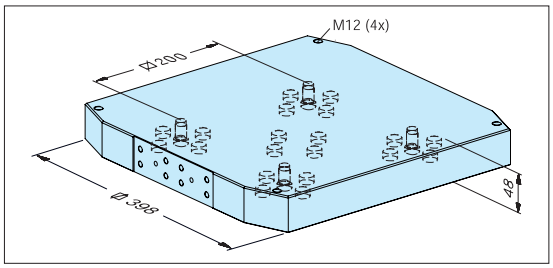
ER-130126 MTS pallet 198 x 398 / 250

Version: Aluminum pallet, 2-fold, pitch 250mm. Excluding chucking spigots.
Application: To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories: MTS chucking spigot set ER-041460



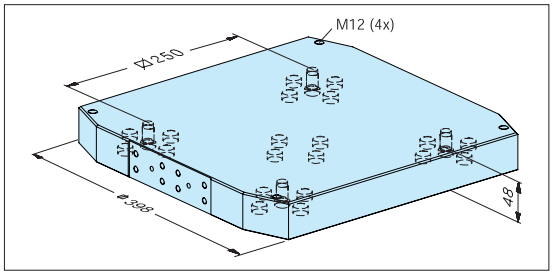
ER-130127 MTS pallet 398 x 398 / 200

Version: Aluminum pallet, 4-fold, pitch 200mm. Excluding chucking spigots.
Application: To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130130 MTS pallet 398 x 398 / 250

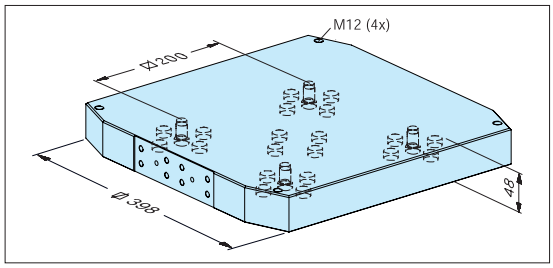
Version: Aluminum pallet, 4-fold, pitch 250mm. Excluding chucking spigots.
Application: To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130129 MTS pallet 398 x 398 / 200 Hard Z support

auto

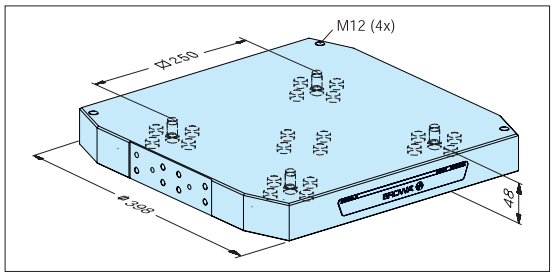
Version	Aluminum pallet, 4-fold, pitch 200mm. With hard Z supports. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130131 MTS pallet 398 x 398 / 250 Hard Z support

auto

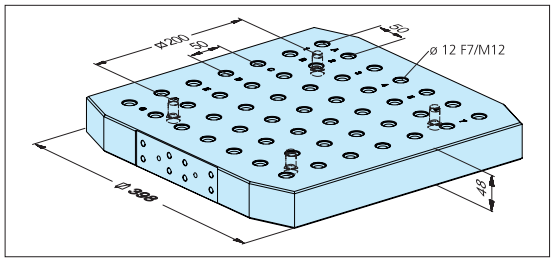
Version	Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130128 MTS pallet 398 x 398 / 200 R50

auto

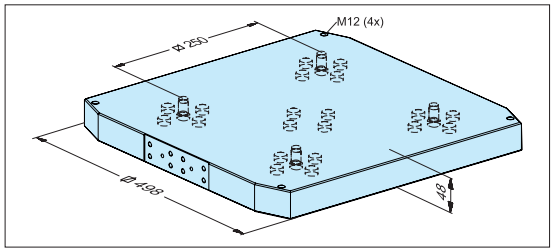
Version	Aluminum pallet (hard-anodized), 4-fold, pitch 200mm. With grid 50mm/M12. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130132 MTS pallet 498 x 498 / 250

auto

Version	Aluminum pallet, 4-fold, pitch 250mm. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



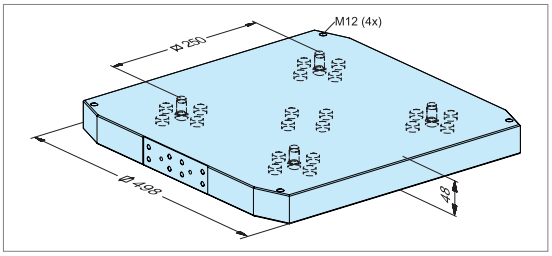
EROWA MTS

Pallets

ER-130134 **MTS pallet 498 x 498 / 250 Hard Z support**

auto

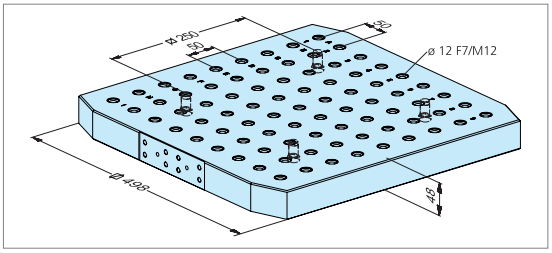
Version	Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges. Holes to be drilled as required.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



ER-130133 **MTS pallet 498 x 498 / 250 R50**

auto

Version	Aluminum pallet (hard-anodized), 4-fold, pitch 250mm. With grid 50mm/M12. Excluding chucking spigots.
Application	To clamp workpieces, vises and gauges.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A) and MTS GripperLink ER-038622.



EROWA MTS

Pallets for WGS gripper technology

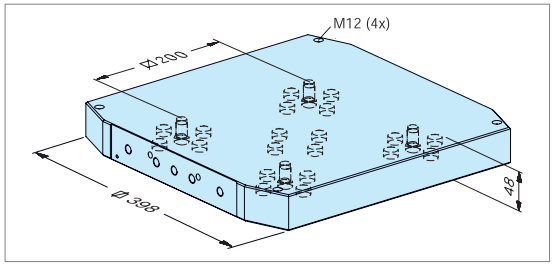
ER-136576 **MTS pallet 398 x 398 / 200**
Hard Z support / WGS-500 40 mm

auto

Version: Aluminum pallet, 4-fold, pitch 200mm. With hard Z-supports. Excluding chucking spigots.

Application: To clamp workpieces, vises and gauges. Hold grid to be drilled according to requirements.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A), as well as GripperLink WGS-500 40mm, ER-094828.



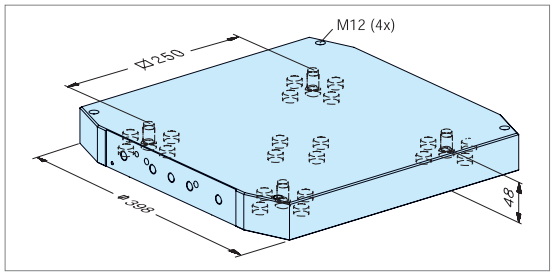
ER-136578 **MTS pallet 398 x 398 / 250**
Hard Z support / WGS-500 40 mm

auto

Version: Aluminum pallet, 4-fold, pitch 250mm. With hard Z-supports. Excluding chucking spigots.

Application: To clamp workpieces, vises and gauges. Hole grid to be drilled according to requirements.

Accessories: MTS chucking spigot set ER-041465 (M) or ER-041464 (A), as well as GripperLink WGS-500 40mm, ER-094828.



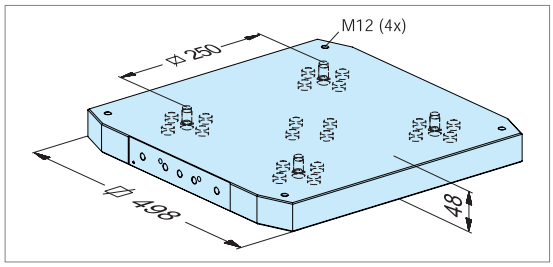
ER-136757 **MTS pallet 498 x 498 / 250**
Hard Z support / WGS-500 40 mm

auto

Version: Aluminum pallet, 4-fold, pitch 250mm. With hard Z-supports. Excluding chucking spigots.

Application: To clamp workpieces, vises and gauges. Hole grid to be drilled according to requirements.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A), as well as GripperLink WGS-500 40mm, ER-094828.



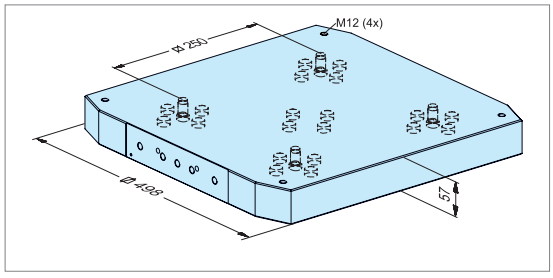
ER-136793 **MTS pallet 498 x 498 x 57 / 250**
Hard Z support / WGS-500 56 mm

auto

Version: Aluminum pallet, 4-fold, pitch 250 mm. With hard Z supports. Excluding chucking spigots.

Application: To clamp workpieces, vises and gauges. Hold grid to be drilled according to requirements.

Accessories: MTS chucking spitot-sets ER-041461 (M) or ER-041464 (A), as well as GripperLink WGS-500 56mm, ER-104344.



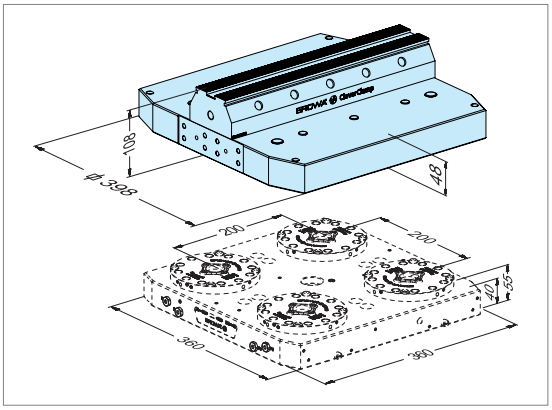
EROWA MTS

Pallets CleverClamp System

ER-130141 **MTS pallet 398 x 398 / 200 CleverClamp mono**

auto

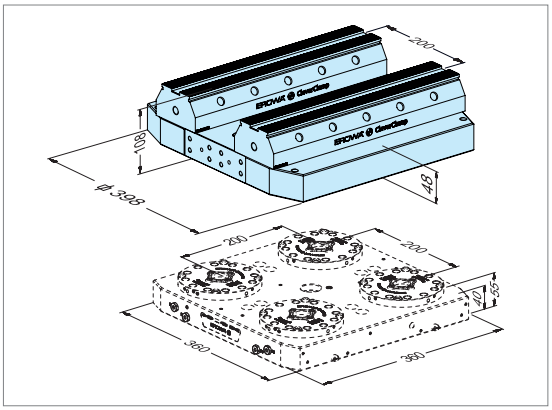
Version	Aluminum pallet, 4-fold, pitch 200mm. With hard Z supports and 1 x CleverClamp rail 398. Excluding chucking spigots.
Application	Optimal accessibility for 5-axis machining with single and multiple part clamping.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



ER-130140 **MTS pallet 398 x 398 / 200 CleverClamp duo**

auto

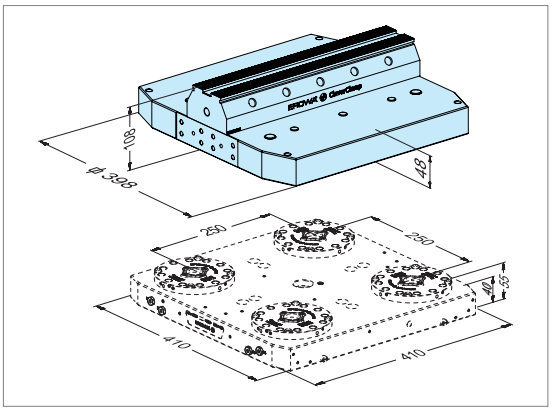
Version	Aluminum pallet, 4-fold, pitch 200mm. With hard Z supports and 2 x CleverClamp rail 398. Excluding chucking spigots.
Application	Optimal accessibility for 5-axis machining with single and multiple part clamping.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



ER-130417 **MTS pallet 398 x 398 / 250 CleverClamp mono**

auto

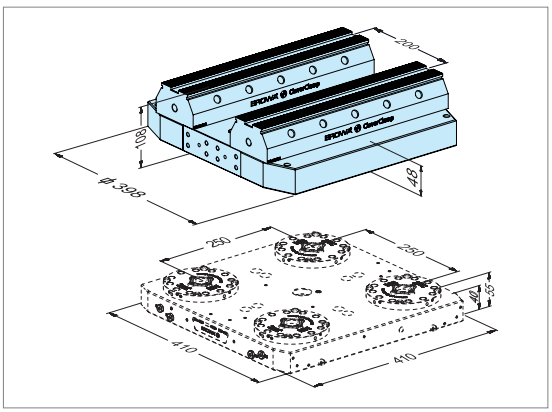
Version	Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports and 1 x CleverClamp rail 398. Excluding chucking spigots.
Application	Optimal accessibility for 5-axis machining with single and multiple part clamping.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



ER-130415 **MTS pallet 398 x 398 / 250 CleverClamp duo**

auto

Version	Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports and 2 x CleverClamp rail 398. Excluding chucking spigots.
Application	Optimal accessibility for 5-axis machining with single and multiple part clamping.
Accessories	MTS chucking spigot set ER-041461 (M) or ER-041464 (A).

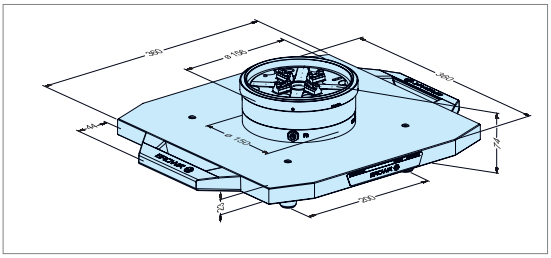


EROWA MTS

Single Pallets

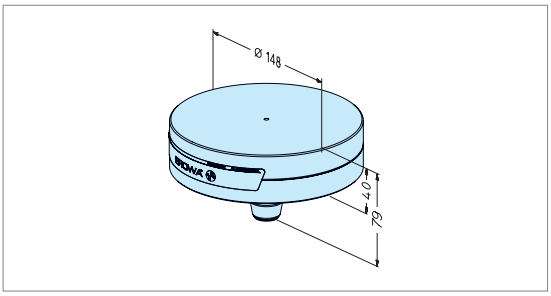
ER-138657 MTS Adapter pallet PowerChuck P 360 x 360 / 200 manual

Version	Adapter pallet from MTS to PowerChuck P. ER-115254 chuck fitted and aligned.
Operation	PowerChuck P through lateral valve with airgun.
Application	On machines with MTS base to accommodate ITS pallets and standard holders.
Please note	Manual changeover to MTS. Automatic changeover to PowerChuck P possible. Further system adaptations on request.



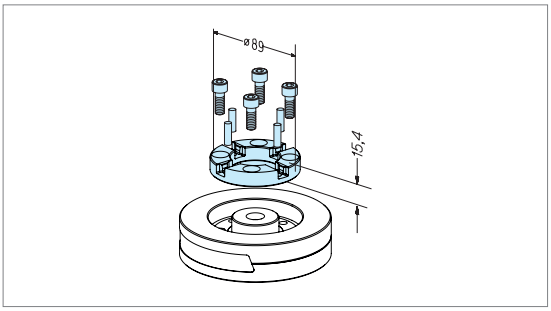
ER-033602 MTS pallet ø 148 blank ALU

Version	Aluminum pallet, fitted with centering plate ER-033600, including MTS chucking spigot ER-039200.
Application	To clamp workpieces and gauges. For manual handling on MTS IntegralChuck Single.



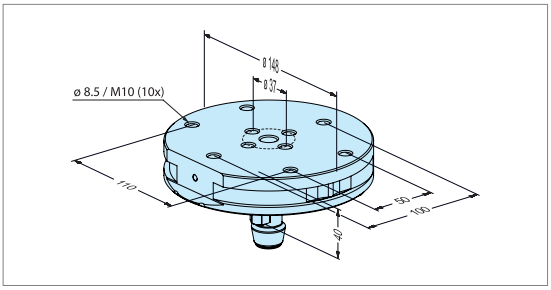
ER-033600 MTS centering plate P

Version	Steel, including attachment bolts and positioning pins.
Application	For the production of customized and indexable MTS pallets. For manual handling on MTS IntegralChuck Single.
Accessories	Chucking spigot ER-039200 to be ordered separately.



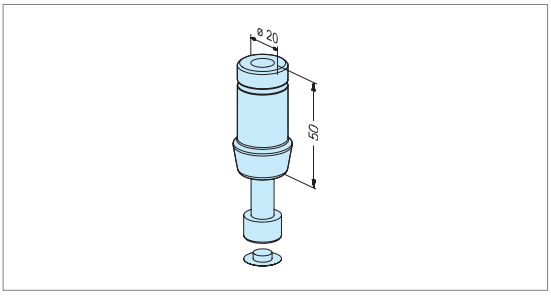
ER-129663 MTS pallet ø 148 P

Version	Steel pallet, unhardened, including MTS chucking spigot P ER-040999. Centering integrated in the pallet. With opitmized center of mass.
Application	To accommodate workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.
Note	In automatic operation additionally use MTS sealing ring ER-045969.



ER-040999 MTS chucking spigot P 1 piece

Version	MTS chucking spigot, including attachment bolt and protective cap.
Application	To be mounted on pallets ø 148 P.
Note	In automatic operation additionally use MTS sealing ring ER-045969.



EROWA MTS

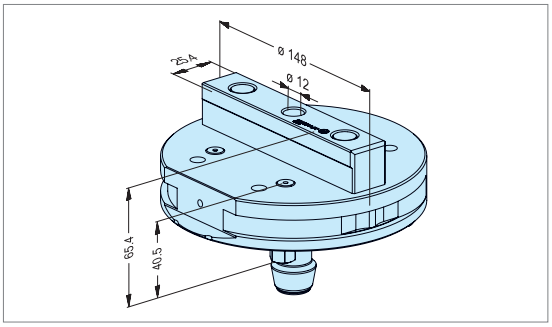
Alignment pallets

ER-138951 MTS Alignment pallet P ø 148 with MTS chucking spigot P

INOX | auto | 148

Version: Pallet P ø 148 with ground alignment rail and four Z-measuring surfaces. Including ER-040999 chucking spigots.

Application: Alignment of the angle position and determination of the center and the Z-values of MTS Single chucks.

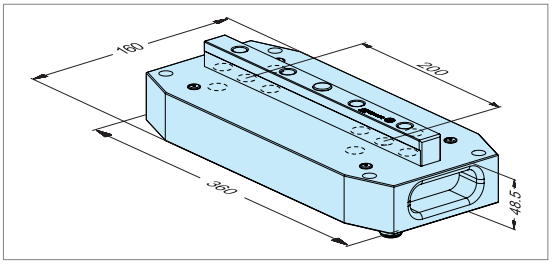


ER-130135 MTS Alignment pallet 160 x 360 / 200

INOX

Version: Aluminum pallet, 2-fold, with hard Z supports. With ground alignment rail and four Z-measuring surfaces. Including 2 x MTS centering spigot / A.

Application: Alignment of the angle position and determination of the Z-values of 2-fold MTS base plates with pitch 200mm.

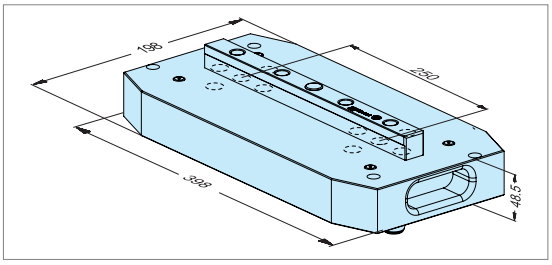


ER-130136 MTS Alignment pallet 198 x 398 / 250

INOX

Version: Aluminum pallet, 2-fold, with hard Z supports. With ground alignment rail and four Z-measuring surfaces. Including 2 x MTS centering spigot / A.

Application: Alignment of the angle position and determination of the Z-values of 2-fold MTS base plates with pitch 250mm.

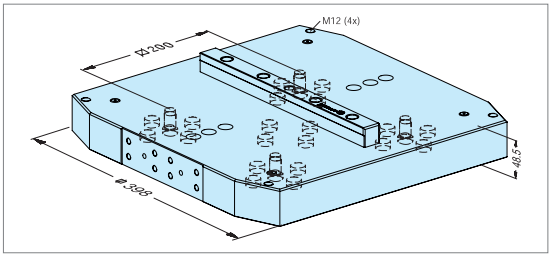


ER-130137 MTS Alignment pallet 398 x 398 / 200

INOX | auto

Version: Aluminum pallet, 4-fold, with hard Z supports. With ground alignment rail and four Z-measuring surfaces. Including MTS chucking spigot set 4 / A-Z.

Application: Alignment of the angle position and determination of the center and Z-values of 4-fold MTS base plates with pitch 200mm.

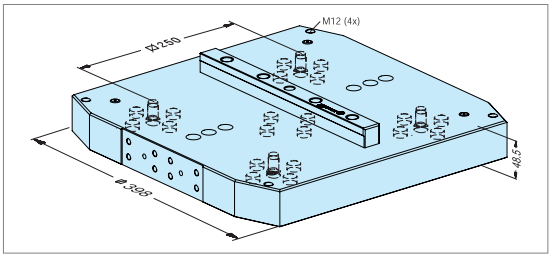


ER-130138 MTS Alignment pallet 398 x 398 / 250

INOX | auto

Version: Aluminum pallet, 4-fold, with hard Z supports. With ground alignment rail and four Z-measuring surfaces. Including MTS chucking spigot set 4 / A-Z.

Application: Alignment of the angle position and determination of the center and Z-values of 4-fold MTS base plates with pitch 250mm.



EROWA MTS

Chucking spigots

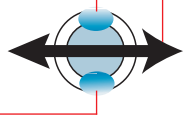
MTS centering spigot:
ER-033800 MTS centering spigot
ER-038000 MTS centering spigot / A
The **centering spigot** defines the datum point (free of play).

MTS chucking spigot:
ER-039200 MTS chucking spigot / A
Chucking spigot without centering function.

MTS compensation spigot:
ER-039201 MTS compensation spigot / A
The **compensation spigot** positions the pallet in one axis only (X or Y) and is capable of compensating for a maximum pitch difference of 0.1 mm.

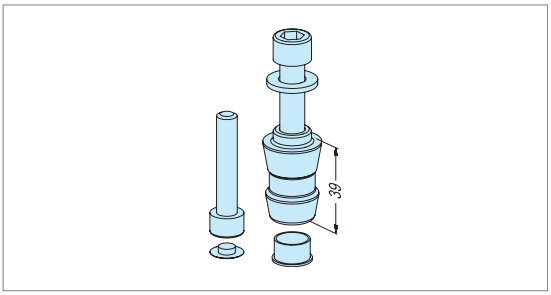
Possible compensation movements

Centering surfaces



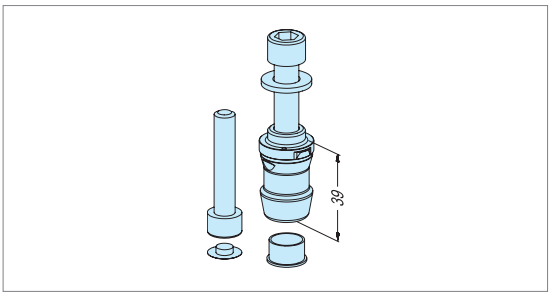
ER-033800 MTS centering spigot

Version: One chucking spigot with centering function (free of play), including attachment bolts (M10x50, M12x55), U-disc and protective caps.



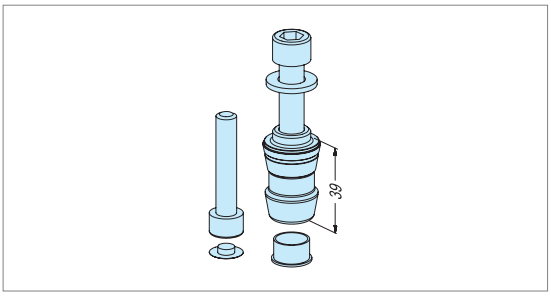
ER-039201 MTS compensation spigot / A

Version: One chucking spigot with compensation function, including attachment bolts (M10x50, M12x55), U–disc and protective caps.



ER-039200 MTS chucking spigot / A

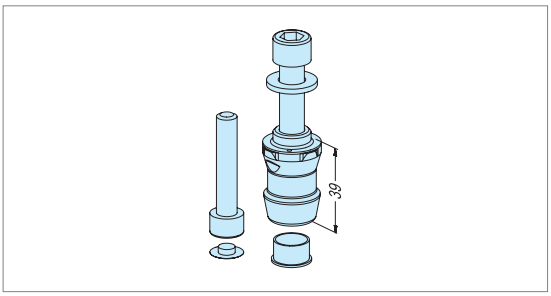
Version: One chucking spigot without centering (centering play 0.1mm), including attachment bolts (M10x50, M12x55), U–disc and protective caps.



ER-038000 MTS centering spigot / A

Version: One chucking spigot with centering function, including attachment bolts (M10x50, M12x55), U-disc, O-ring and protective caps.

Application: For MTS pallets which are loaded/unloaded automatically. The centering spigot defines the datum point and closes the cleaning boreholes in the MTS Chucks / A.

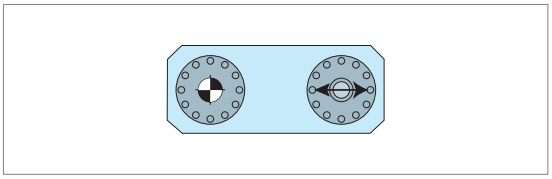


EROWA MTS

Chucking spigot set

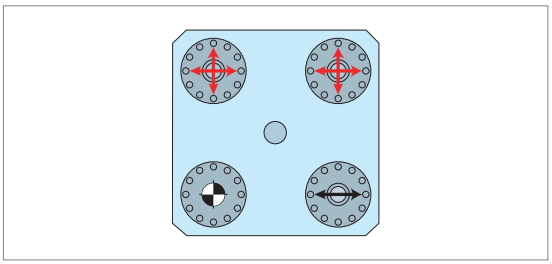
ER-041460 MTS chucking spigot set 2

Version 1 centering spigot, 1 compensation spigot / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.



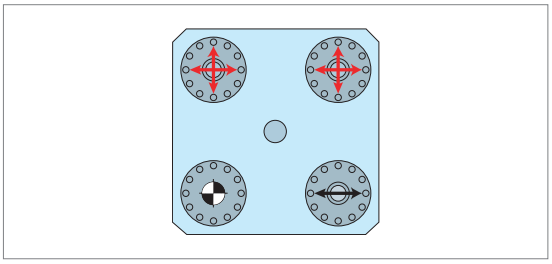
ER-041461 MTS chucking spigot set 4

Version 1 centering spigot, 1 compensation spigot / A, 2 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.



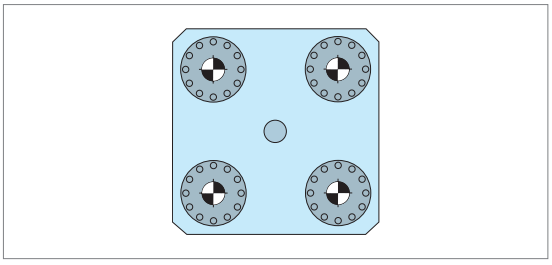
ER-041464 MTS chucking spigot set 4 / A

Version 1 centering spigot / A, 1 compensation spigot / A, 2 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.



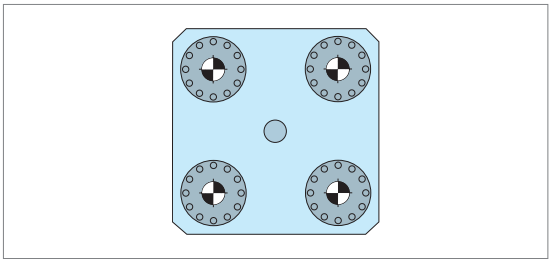
ER-062465 MTS chucking spigot set 4 / A-Z

Version 4 centering spigots / A.
Application For 5-axis machining.
To fit With the bolts supplied, through the pallet, or through chucking spigots.



ER-100693 MTS chucking spigot set 4 / A-Z-FD reinforced spigot

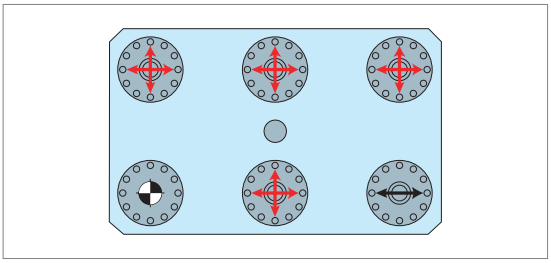
Version 4 centering spigots FD / A, including washers, straight pins and O-rings. Without M12 attachment bolts.
Application Predominantly for 5-axis machining, rotative machining, for example milling/turning.
To fit Through the pallet (from above) - attachment from below impossible.
Note The centering spigots FD can only be used in conjunction with FD pallets. If you have any questions, please contact EROWA.



ER-041462 MTS chucking spigot set 6

Version 1 centering spigot, 1 compensation spigot / A, 4 chucking spigots / A.

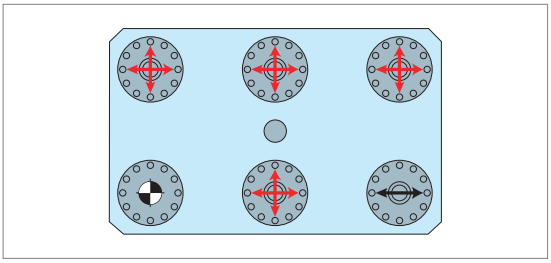
Mounting With the bolts supplied through the pallet or through the chucking spigot.



ER-054710 MTS Chucking spigot set 6 / A

Version 1 centering spigot / A, 1 compensation spigot / A, 4 chucking spigots / A.

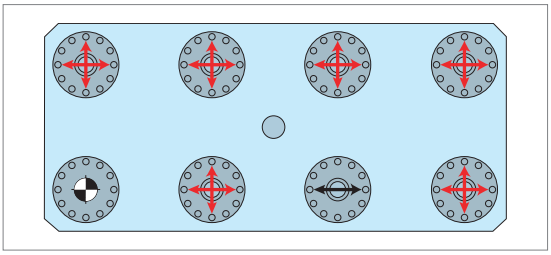
Mounting With the bolts supplied through the pallet or through the chucking spigot.



ER-041463 MTS chucking spigot set 8

Version 1 centering spigot, 1 compensation spigot / A, 6 chucking spigots / A.

Mounting With the bolts supplied through the pallet or through the chucking spigot.

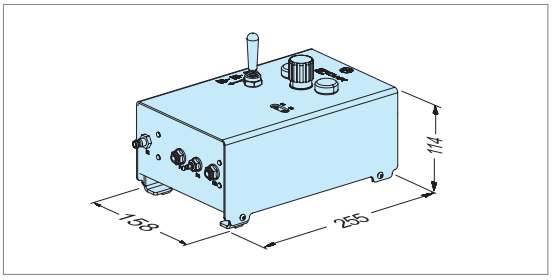


EROWA MTS

Operation

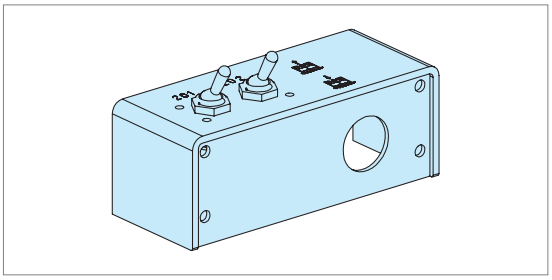
ER-073872 Manual control unit with booster

Version	Manual valve to control the EROWA chucks: Opening/Reclamping/Cleaning.
Application	Operation of: EROWA ITS Compact Combi Chuck, ITS, UPC, MTS, PC 210 chucks and PowerChuck P.
Note	Integrated booster with load ratio 1:2 (up to output pressure of 10 bar max.).



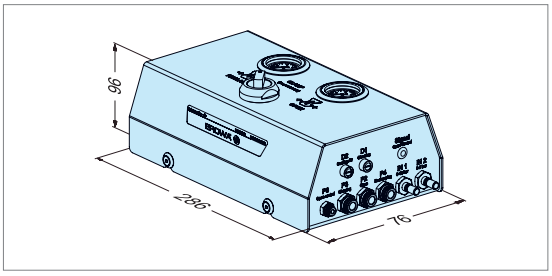
ER-039466 Additional valve double

Version	For mounting to the manual control units ER-008988 and ER-073872, incl. set of hoses.
Application	Operating of two separate chucks with one single control unit.



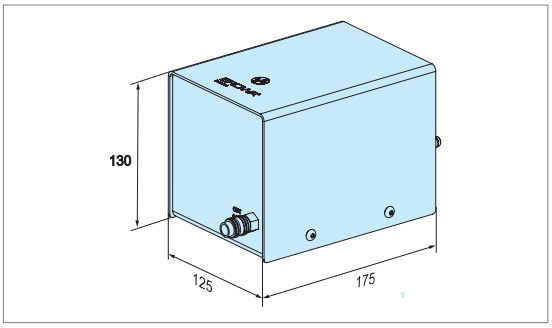
ER-136200 MTS 2.0 manual control unit

Version	Manual control unit for MTS 2.0 chucks. With connections for all functions. Indication of open control via manometer or electrical signal possible.
Application	Operation of MTS 2.0 chucks.



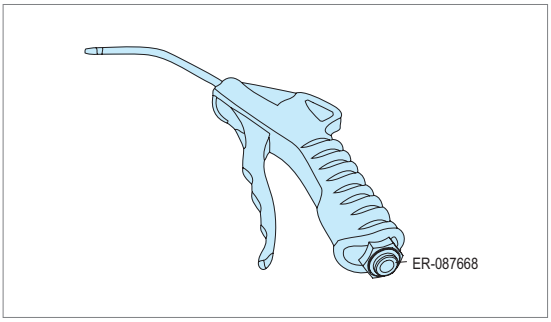
ER-074893 Pressure booster

Version	Quick-connect couplings for hose ø i = 8 mm. Compression ratio: 1:2
Application	On insufficient system pressure and on pressure fluctuations.
Installation	Integrate in air circuit near application.



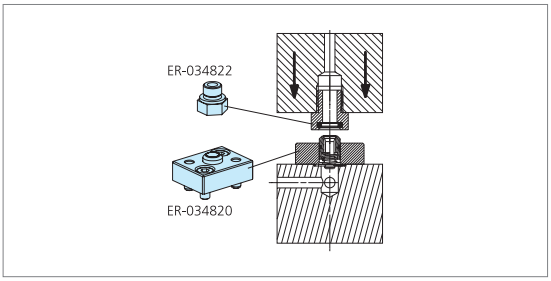
ER-001846 Air jet

Version	Plastic, smooth regulation of air flow, connection 1/4'', inside thread.
Application	Operation of manual chucks.
Note	Not suitable for operating MTS+ and MTS81.
Option	Volume and pressure reduction to air jet (ER-087668). Pressure build up is reduced if Air Jet is not pushed against an air valve.



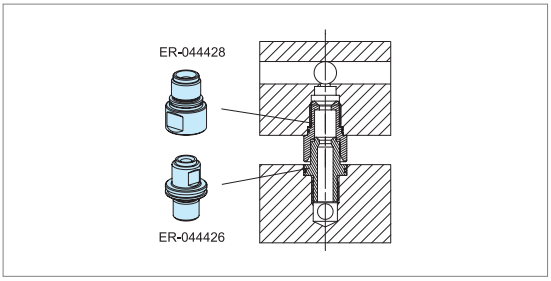
ER-034820 MTS air coupling
ER-034822 MTS air coupling pallet 1 piece

Application	The MTS air coupling ER-034820 combined with the MTS air coupling ER-034822 serves as a pneumatic interface between MTS base plates (A) and MTS pallets (B).
For use	with compressed air.
Working pressure	max. 10 bar.



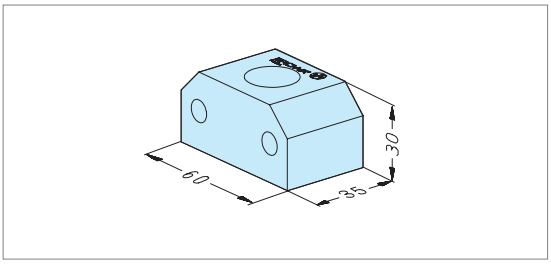
ER-044426 Nipple for MTS base plates
ER-044428 Coupling for MTS pallets

Application	The coupling for MTS pallets ER-044428, in combination with the nipple for MTS base plates ER-044426, serves as an interface for the medium connection between MTS base plates (A) and MTS pallets (B).
For use	with compressed air, with vacuum, with oil / hydraulic.
Working pressure	max. 200 bar.
Important	Docking- and undocking only depressurized.



ER-034168 MTS Connector block 1/8" double

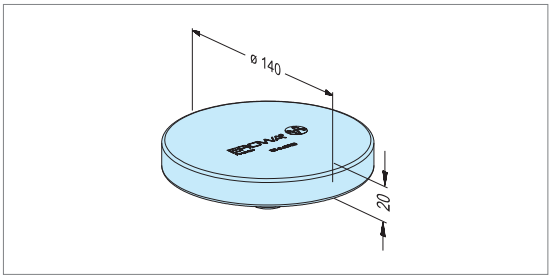
Version	Connector block made of steel, excluding attachment bolts.
Application	To receive pneumatic and hydraulic threaded connectors, nipples and couplings.



EROWA MTS

Accessories

ER-042038 MTS cover



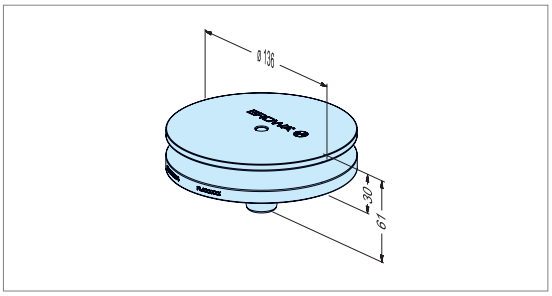
Version Aluminum cover, anodized. Suitable for MTS and MTS 2.0 chucks.

Application Protects MTS and MTS 2.0 chucks that are not in use from chips and coolant.

ER-070064 MTS Sealing pallet ø 136/A





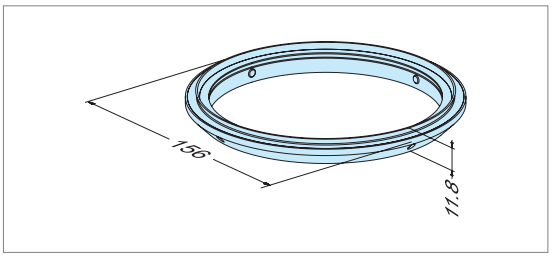


Version Rust-resistant cover for the air-tight sealing of MTS chucks that are not in use.

Note Support surface must be clean and must be protected against damage.

ER-048478 MTS Chip guard low





Version Aluminum, anodized

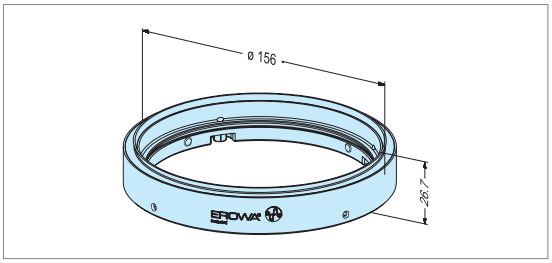
Application The MTS chip guard serves to seal the automatic MTS chucks and base plates when MTS pallets are used.

Note The MTS chip guard low cannot be combined with the MTS pallet P ø 148 Inox (ER-129663).

ER-056879 MTS Chip guard ø 156 with axial deaeration



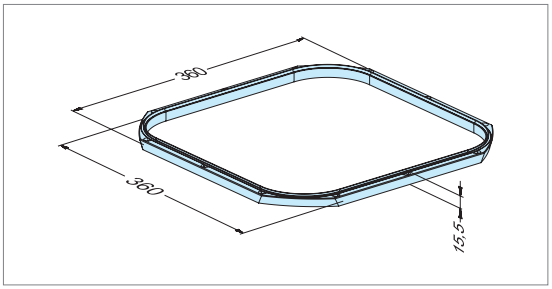




Application For use with MTS pallet P ø 148 (ER-129663). Prevents dirt and chips from penetrating into the MTS SingleChuck

ER-049041 MTS seal frame set / 200



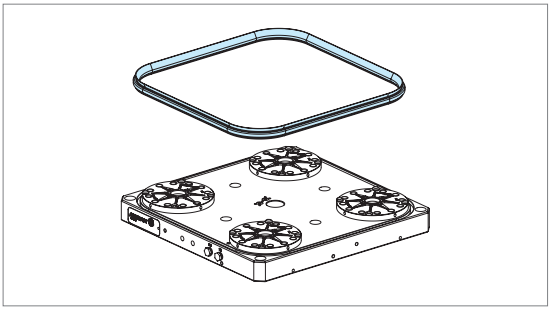


Version Aluminum anodized, with seal FPM (Viton).

Application The MTS seal frame set serves to protect MTS chucks against dirt and liquids when in use with an EROWA MTS pallet.

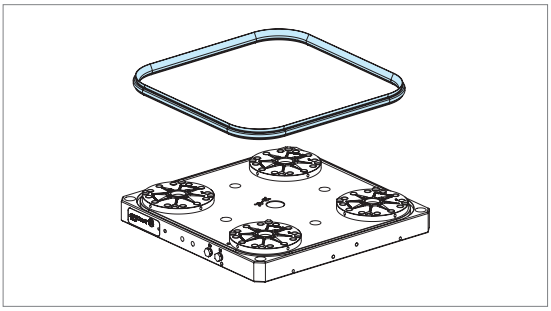
ER-075393 MTS seal / 200 for MTS base plate 360 x 360 mm

Version	FPM (Viton).
Application	Prevents dirt from penetrating into MTS base plates 360 x 360 in combination with MTS pallets 398 x 398 / 200.
Note	The MTS base plate must have, or be equipped with, the groove to accommodate the seal.



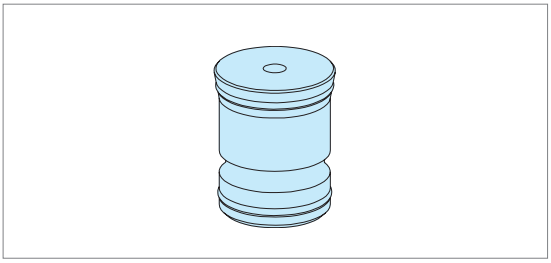
ER-071604 MTS seal /250 for MTS base plate 410 x 410 mm

Version	FPM (Viton)
Application	Prevents dirt from penetrating into MTS base plates 410 x 410 with the use of EROWA MTS pallets 398 x 398 / 250 and 498 x 498 / 250.



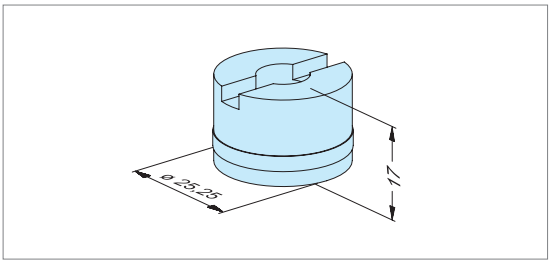
ER-037967 MTS Locking bolt with M6

Version	Steel.
Application	To plug the central borehole in MTS, MTS 2.0 and MTS 81 chucks.



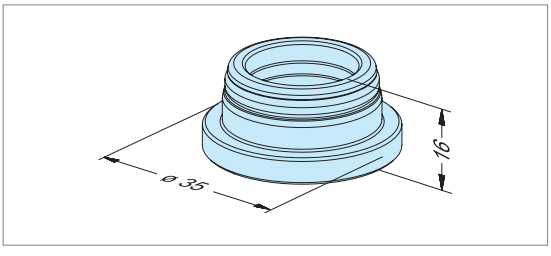
ER-067563 Rubber seal MTS ø25 x 17 mm for EDM

Version	Rubber seal
Note	Assembly according to operating instructions. Prevents liquid from penetrating from below into the MTS chuck.



ER-045969 MTS sealing ring for chucking spigot P

Version	Plastic
Application	Used in combination with the MTS chucking spigot P ER-040999 for sealing MTS chucks.

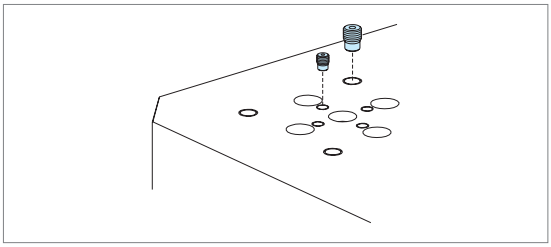


EROWA MTS

Accessories

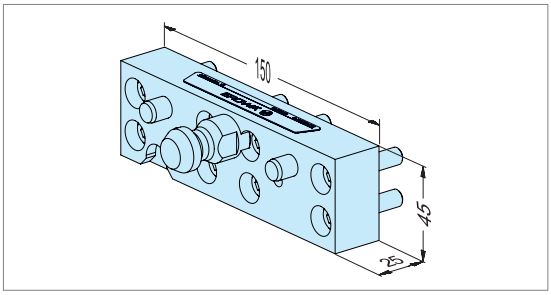
ER-060391 MTS Set Z-support bolt set for 4-part pallet

Version Steel, hardened
Application The Z-support bolts (1, 2) serve as Z-support surface for customized MTS pallets.



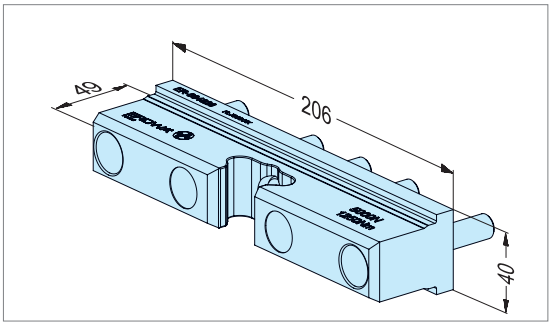
ER-038622 GripperLink RCS 45 mm

Version Coupling for MTS pallets, mounting accessories included.
Application Suited for MTS pallets to be used on EROWA handling devices with the «RCS» coupling system.



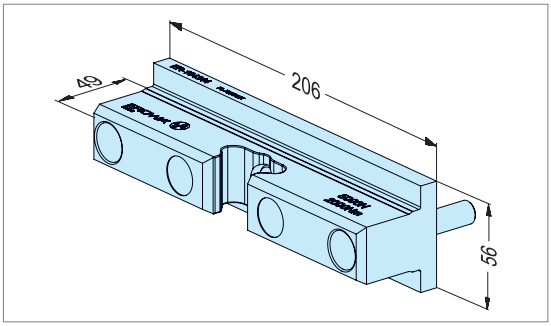
ER-094828 GripperLink WGS-500 40 mm without air connection

Version Coupling kit incl. screw set, for mounting on MTS or UPC pallets.
Application For pallets on EROWA handling units that are equipped with the WGS-500 exchange gripper system.



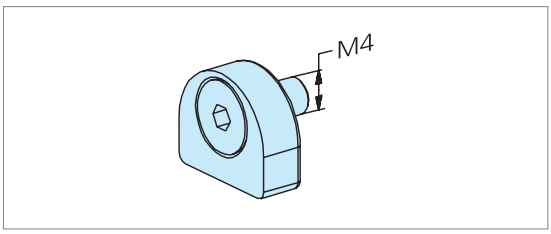
ER-104344 GripperLink WGS-500 56 mm without air connection

Version Coupling kit, including set of bolts, to fit to MTS pallet of 57mm height.
Application For pallets on EROWA handling facilities equipped with the WGS-500 exchange gripper system.



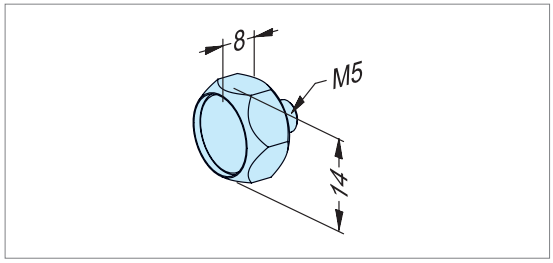
ER-035294 EWIS™ Rapid chip with chip holder RCS with chip ø 3 x 13.5 mm

Version Holder with built-in data carrier. EWIS chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.



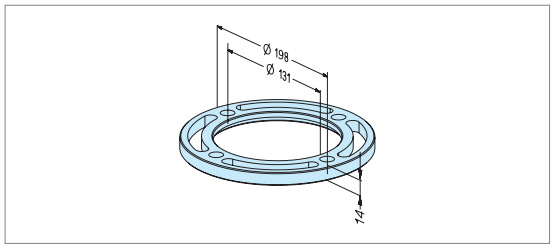
ER-094168 EWIS™ rapid chip with holder SW14 Length 8 mm (grey)

Version	Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application	In any EROWA electrode holder and pallet which has been prepared for it.



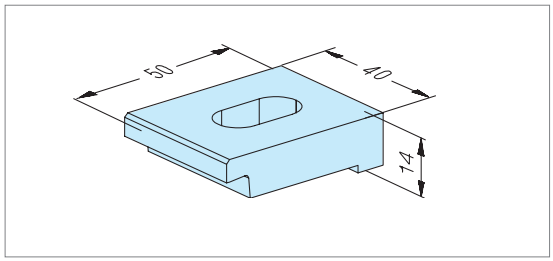
ER-033804 MTS ring bracket

Version	Bracket made of steel, excluding attachment bolts.
Application	Suitable for MTS chucks only. To attach mounted MTS chucks to the machine table.



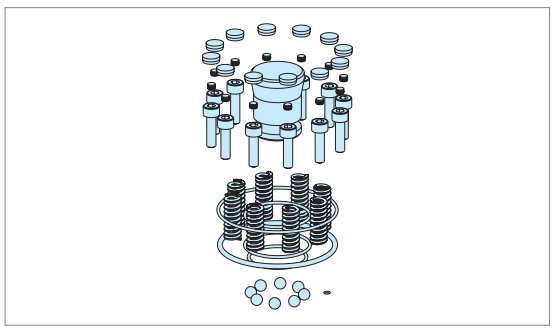
ER-033805 MTS bracket 1 piece

Version	Bracket made of steel, excluding attachment bolt.
Application	To attach MTS chucks onto the machine table.
Note	Four brackets are necessary per MTS chuck.



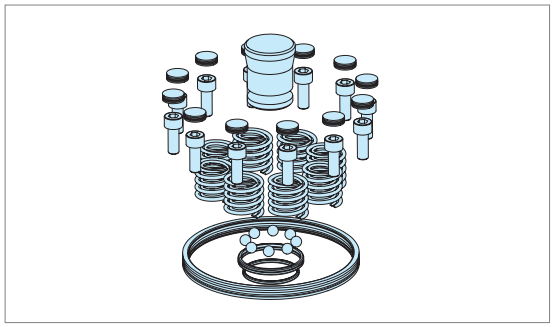
ER-061558 MTS 81 Repair Kit

Version	All the wearing parts for MTS 81 IntegralChuck.
Application	Repair Kit.



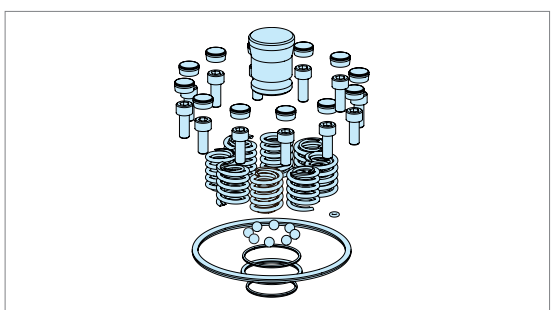
ER-034382 MTS repair set pneumatic

Version	All the wearing parts for pneumatic MTS chucks.
Application	As a repair set or for the conversion of hydraulic MTS chucks into pneumatic ones.
Note	Repair or conversion according to instruction manual supplied. Compatibility: ER-033402, ER-036802, ER-033400 and ER036800.



ER-108204 MTS 2.0 repair set pneumatic

Version	All the wearing parts for MTS 2.0 chuck.
Application	Repair Kit.

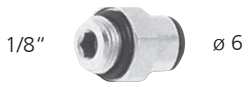


EROWA MTS

Accessories

ER-014326 Straight threaded connector 3101 06 10 ø6 / G1/8

Application Pneumatic.



ER-002814 Angled connector 3199 06 10

Application Pneumatic.



ER-014366 Threaded T-connector 3198 06 10

Application Pneumatic.



ER-014333 T-connector

Application Pneumatic.



ER-034095 Cross-connector

Application Pneumatic.



ER-002023 Tube ø 6/4 black Legris 1100 U06 01

Application Pneumatic. Max. operating pressure: 9 bar.
Order unit Meters.



ER-036672 MTS air jet valve

Application Pneumatic. For air jet ER-001846.

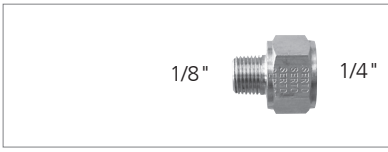


ER-002147 Reinforced pipe PMAFlex Co-Flex divisible

Application Hydraulic and pneumatic. Protects tubes ER-033495 and ER-002023 from damage.
Order units Meter.

ER-034098 Reduction nipple G1/4" - G1/8"

Application Hydraulic and pneumatic.



ER-034372 Reduction bushing IG1/8" - IG1/4"

Application Hydraulic and pneumatic.



ER-034373 Reduction bushing IG 1/8" - IG 1/8"
AD FA 40-1/8-1/8

Application Hydraulic and pneumatic.



ER-034375 Reduction nipple AG 1/4" - IG 1/8"

Application Hydraulic and pneumatic.



ER-001617 Threaded plug 1/8"

Application Hydraulic and pneumatic.



ER-033504 Nipple 1/8"

Application Hydraulic. With blocking device. Fits fast coupling ER-033499.



ER-033499 Rapid-action coupling 1/8" IG

Application Hydraulic. With blocking device. Fits fast nipple ER-033504.



EROWA MTS

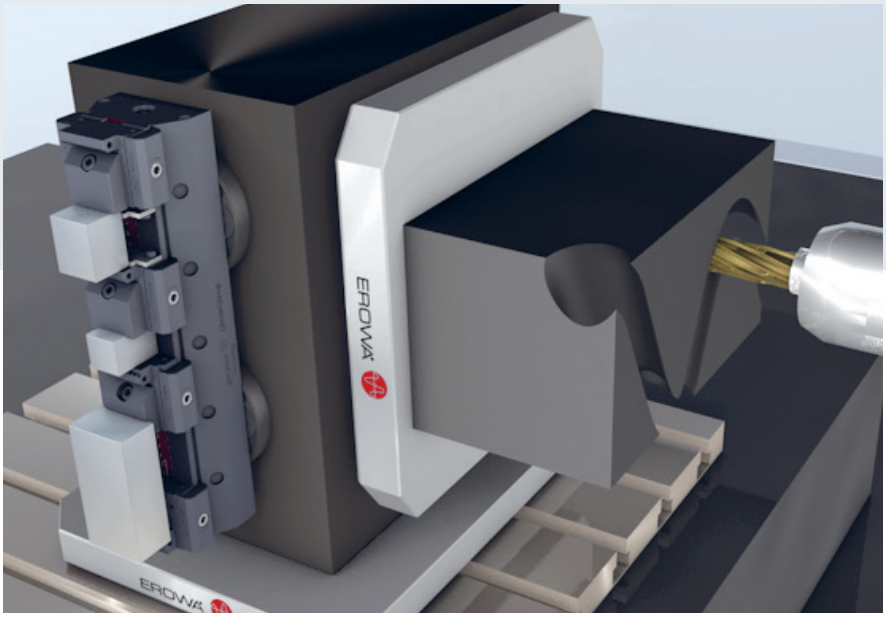
Mineral-cast cube for an optimal use of space

The entire working space of the machine is optimally used through the use of mineral-cast cubes. In addition, mineral cast as a basic material has many advantageous properties: Vibration damping is up to ten times better than with gray cast iron. Furthermore, mineral cast has a very high degree of temperature stability. In combination with the ingenious MTS datum point clamping technology, the EROWA mineral-cast cube is a crucial productivity factor.

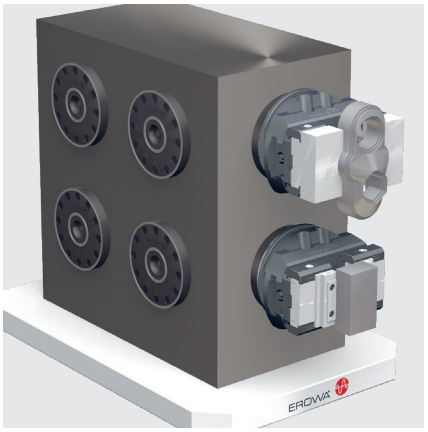


FACTS

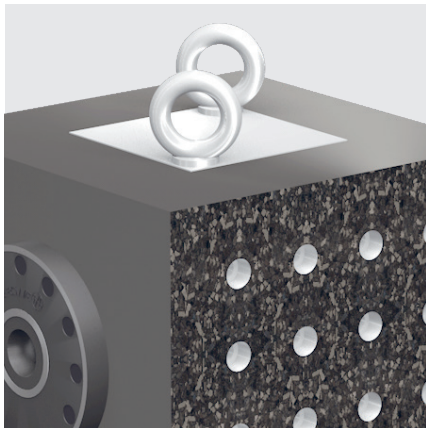
- Standard version or made to measure
- Dampens vibration
- Low heat conductivity
- High degree of precision
- Light as aluminum



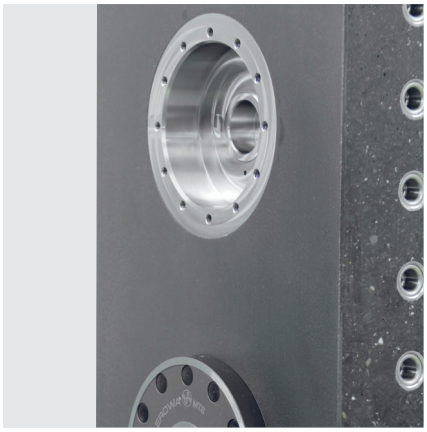
Best possible use of working space for optimal autonomy of the machine.



Resetting times are eliminated through the preparation of workpieces on the set-up station outside the machine. To be machined, workpieces are clamped into the MTS datum point tooling system.



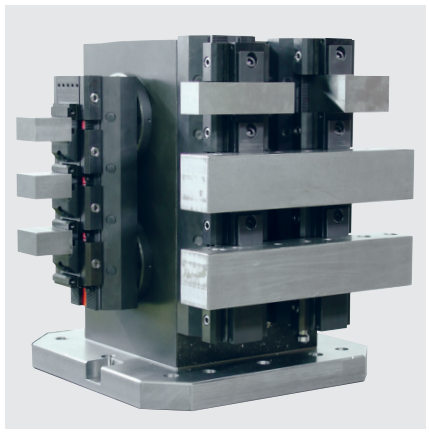
Taking the whole cube from the machine to the set-up station? Simply lift it with the overhead crane.



Rust-resistant circular recesses for the MTS clamping modules and inside pneumatic supply for safe operation in the demanding production environment.



The 50mm hole grid system and the matching clamping elements offer an almost unlimited number of fitting options for workpiece carriers.



EROWA CleverClamp system in use on the mineral-cast cube. A wide variety of clamping options for various workpiece sizes.



Customized design:
Mineral-cast cube with 16 MTS chucks;
dimensions: 830 mm x 830 mm x 1200 mm.

EROWA MTS

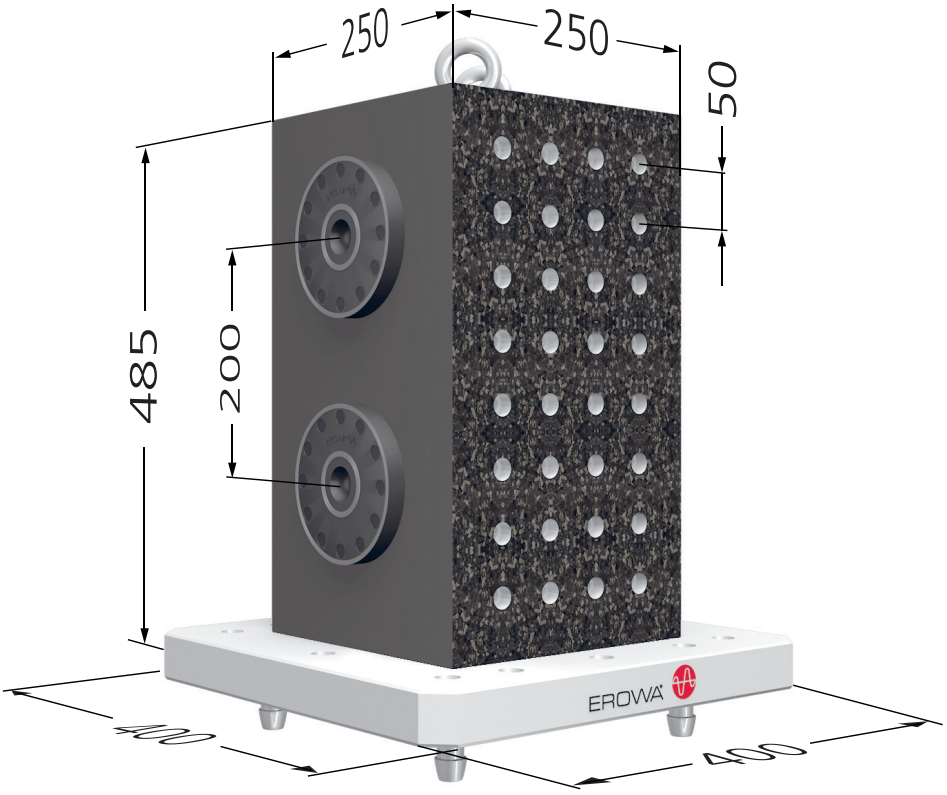
Mineral Cast Cube Variations

All fixtures - including cubes - should be able to be taken to the machine table as quickly and as precisely as possible. The MTS datum point tooling system serves as a base. Thus all job changes are completed with only two pallets in next to no time. The fixtures are stored on space-saving shelves but can be retrieved at any time.

Standard version:

ER-094454	**MTS mineral cast cube 250 x 250 x 485 mm**

Version	Mineral cast cube 250 x 250 x 445 mm. Including 2 sides each with 2 MTS chuck M-P (pitch 200 mm) and 2 sides with hole grid R50 / M12 F7. With mounted steel base plate 400 x 400 x 40 mm.
Operation	MTS chuck with air gun.
Note	Base plate with borehole for 63 / 100 mm slot spacing as well as preparation for 4 chucking spigots (set-up distance 200 mm).
Weight	Approx. 135 kg.



The following examples demonstrate some options.
Various sizes, different shapes, any number of chucks, with or without hole grid - almost everything is possible. MTS mineral-cast cubes are produced according to customers' requirements. Simply order "your cube".



Example 01
8 chucks in a minimum amount of space. Pallets from the set-up station are directly clamped on the cube.



Example 02
4-fold or 2-fold MTS pallets ready for use on two sides.



Example 03
An additional four positions for MTS single pallets.



Example 04
Makes optimal use of the height available in the machine.

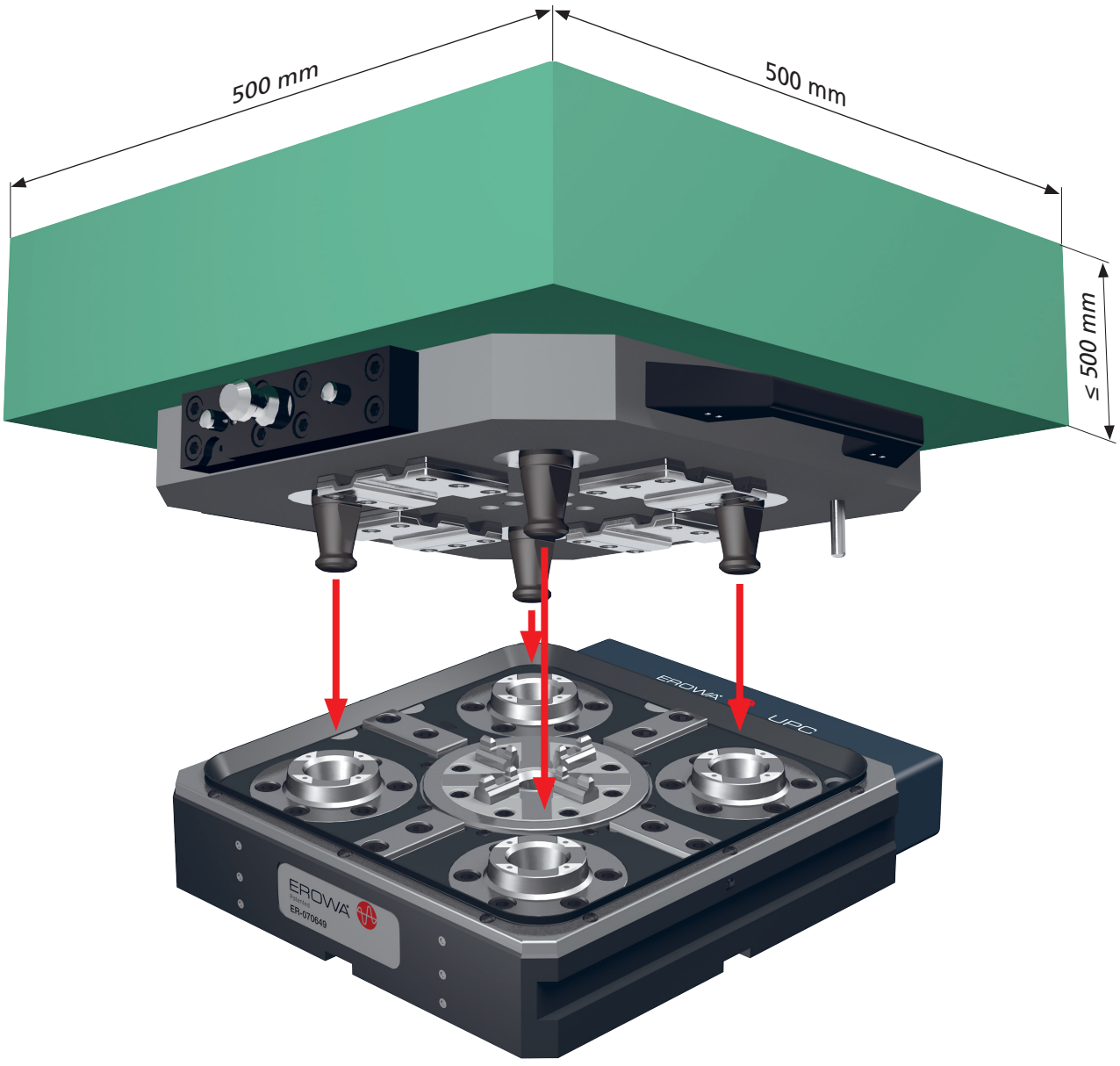


Example 05
Optimal use of the machine's working space.

EROWA UPC

Very precise and extremely robust

The Universal PowerChuck (UPC) clamping system is characterized by high stability and reliability, even with workpieces measuring up to 500 x 500 x 500 mm. With a repeatability of 2 µm, the UPC clamping system leaves no wish unfulfilled also in terms of precision.

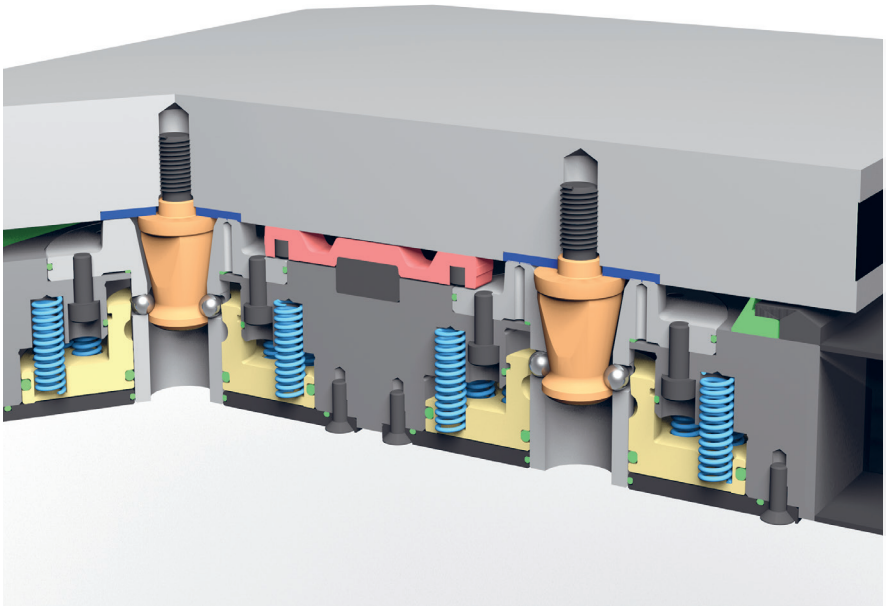


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Centering
The four centering segments in the pallet and in the chuck ensure precise position orientation. The pallet is pre-centered with chucking spigots.

02 | Power package
The self-locking ball lock with low-maintenance ceramic balls generates a clamping force up to 50,000 N. The full clamping force is maintained even in the event of a drop in pressure.

03 | Cleaning
During the clamping process, the contact surfaces are cleaned with compressed air.

04 | 100% sealing
The sealing ring prevents the penetration of chips and coolant.

05 | Tilt-proof
Thanks to the widely spaced support surfaces, the UPC is extremely tilt-proof.

UPC

Technical data - UPC

	UPC	UPC P «Production»
Pallet size	320 x 320 mm	320 x 320 mm
Chuck dimensions	280 x 280 mm	320 x 300 mm
System height (chuck and pallet)	105 mm	105 mm
Recommended workpiece sizes	500 x 500 x 350 mm	500 x 500 x 500 mm
Repeatability	< 0.002 mm	< 0.002 mm
Indexation, pallet	4 x 90°	4 x 90°
Clamping power	32,000 N	50,000 N
Clamping	with spring tension (clamped without pressure)	
Opening pressure	min. 6 bar (pneumatic)	
Operation	with manual or automatic control unit	
Monitoring	pneumatic; evaluation: electropneumatic	

EROWA UPC in operation

Universal, powerful, micron-accurate

The UPC clamping system is suitable for flexible use.
Whether large electrodes on the quill of EDM machines or large workpieces in milling machines – UPC holds what needs to be held and withstand.

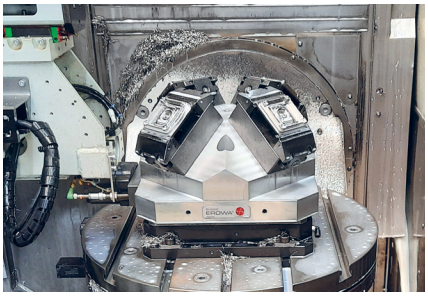
FACTS

- High clamping force
- Repeatability < 0.002 mm
- Air-cleaned Z support surfaces
- Robust
- Reliably sealed
- Wide range of options
- Can be automated

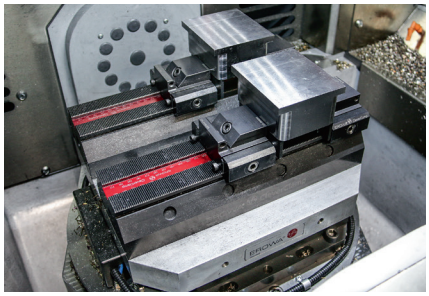




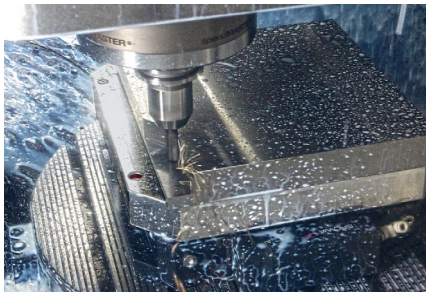
The widely spaced support surfaces of the UPC chuck make the palletizing system extremely tilt-proof.
On a clamping surface of up to 500 x 500 mm, even large workpieces or fixtures can be easily mounted on the UPC pallet.



Basis for all types of workpiece carriers: Vices, gauges and fixtures are mounted on the UPC pallet. This way they are integrated throughout the EROWA UPC palletizing system.



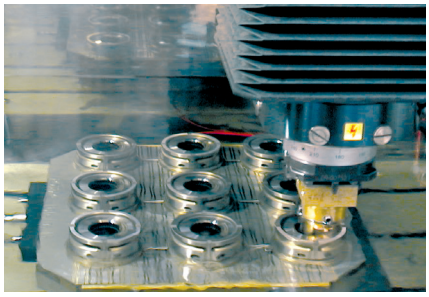
UPC pallet with CleverClamp workpiece clamping system. Simply clamp different workpieces with different clamping elements on a pallet. The pallets can be automated.



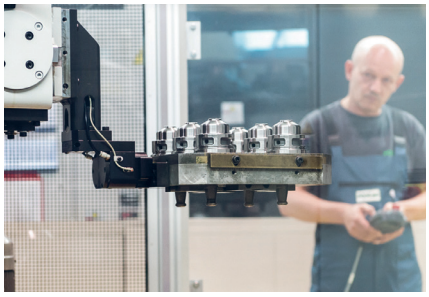
The chucks could completely sealed against ingress of coolant and chips. The contact surfaces are cleaned automatically and thoroughly with air.



2 in 1: UPC adapter pallet with EROWA PowerChuck P. The UPC clamping system can be used flexibly for different EROWA pallet sizes according to the part size.



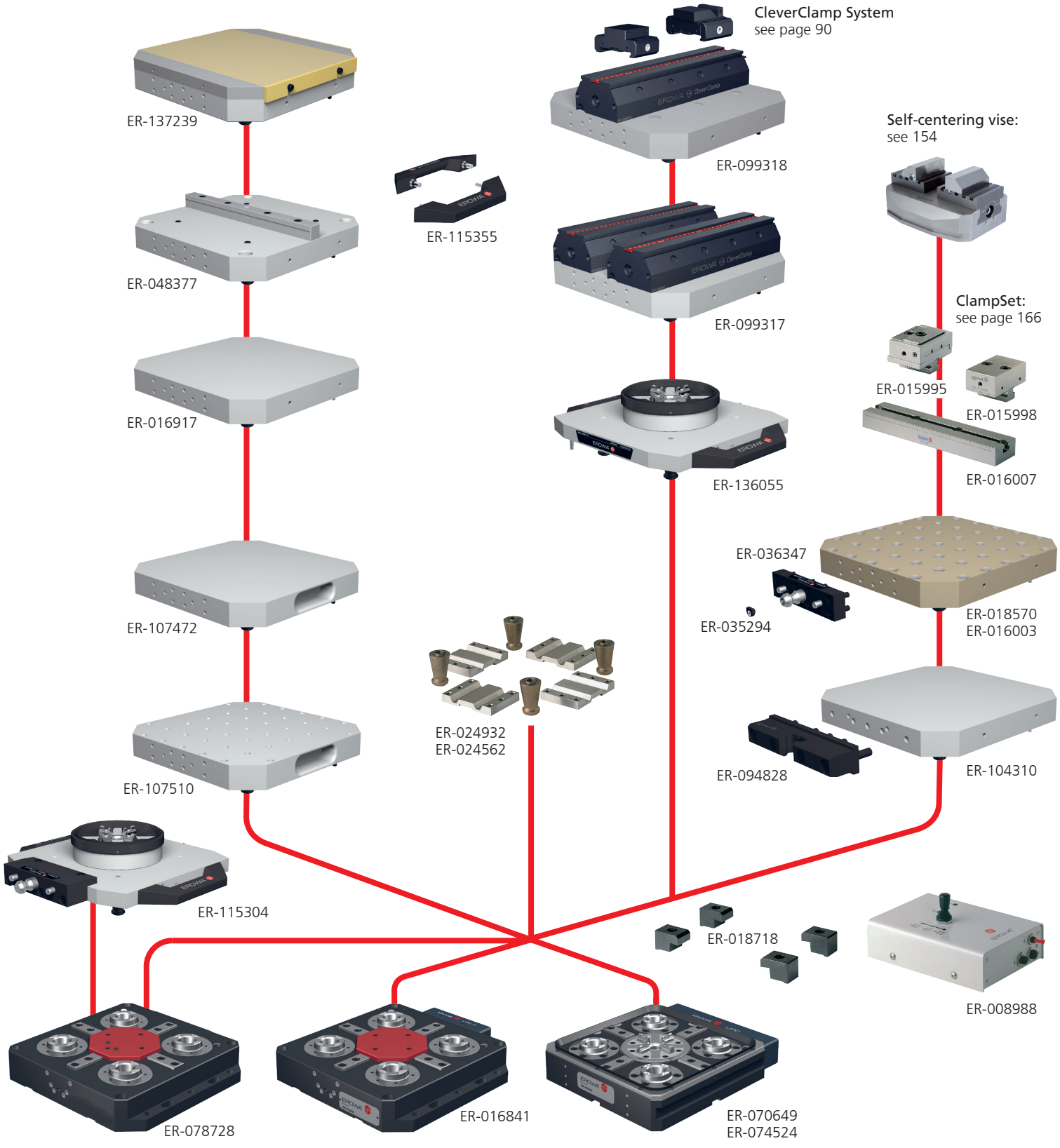
Convenient! Eroding on the UPC magnetic pallet.



The UPC palletizing system is consistently automatable. We will be happy to advise you on an automation solution that meets your needs.

EROWA UPC

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA UPC

UPC	Chucks	82
UPC	Pallets	83
UPC	Operation	86
UPC	Auxiliary equipment	87

For chip-removing processes

For EDM sinking

For WEDM

EROWA UPC

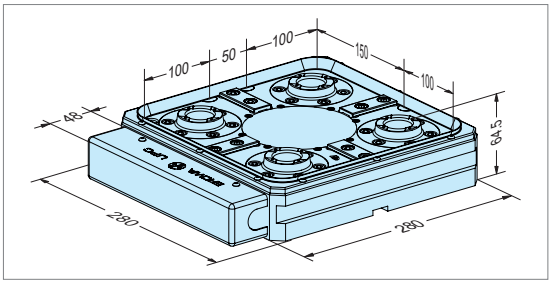
Chucks

Technical data	UPC	UPC P «Production»	ITS Chuck 100P	PowerChuck P
Repeatability	< 0.002 mm	< 0.002 mm	< 0.002 mm	< 0.002 mm
Indexing pallet	4 x 90°	4 x 90°	4 x 90°	4 x 90°
Clamping power	32,000 N	50,000 N	6,000 N	10,000 N
Generated by	spring power	spring power	spring power	spring power
Opening pressure, pneumatic	min. 6 bar	min. 6 bar	min. 6 bar	min. 6 bar

ER-074524 UPC chuck



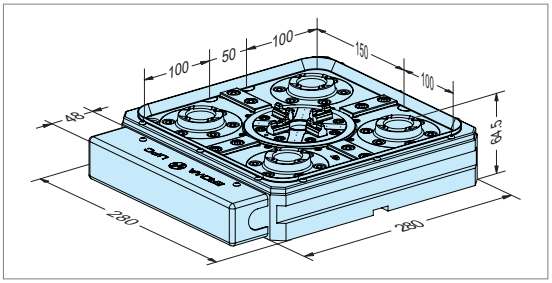
Version	UPC, prepared to accommodate an ITS chuck 100P.
Connections	Through the base and on the side.
Application	On milling, grinding, drilling and EDM sinking centers. In production lines.



ER-070649 UPC chuck with ITS Chuck 100 P



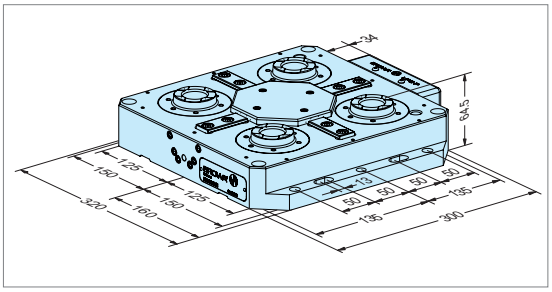
Version	UPC with ITS chuck 100P fitted and aligned.
Connections	Through the base and on the side.
Application	On milling, grinding, drilling and EDM sinking centers. In production lines.



ER-016841 UPC P chuck



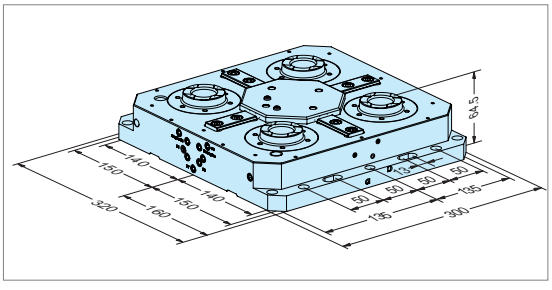
Version	Chuck for high machining forces during chip removal.
Connections	Through the base and on the side.
Application	On milling, grinding, drilling and EDM centers and in production lines.
Option	UPC Sealing-Set ER-016650.



ER-078728 UPC P with connection on TK 57 mm with 2 air docks



Version	Chuck for high machining forces in chip-cutting operations.
Connections	Laterally and underneath on reference circle 57mm.
Application	On milling, grinding, drilling and WEDM machines. In production lines.
Please note	Option UPC seal kit ER-016650 and PowerChuck P on UPC pallet with air duct ER-030580. Further system adaptations on request.

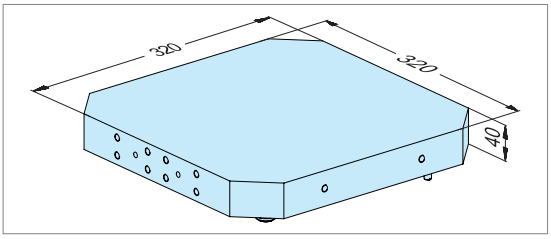


EROWA UPC

Pallets

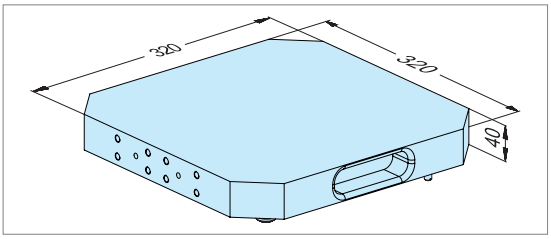
ER-016917 **UPC pallet Alu 320 x 320 x 40 mounting surface ground**

Version	Aluminum, centering segments and chucking spigots fitted, hard Z-support.
Application	To clamp workpieces and gauges.
Please note	Drill holes according to need.



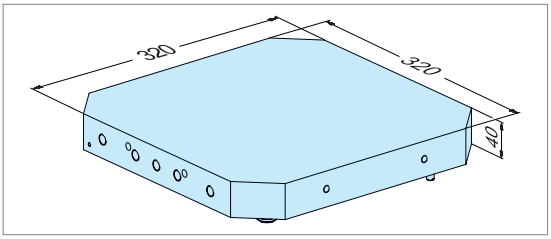
ER-107472 **UPC pallet Alu 320 x 320 x 40 Mounting surface milled**

Version	Aluminum, centering segments and chucking spigots fitted, hard Z-support, integrated handles. Mounting surface milled.
Application	To mount workpieces and gauges.
Mounting workpiece	Drill holes according to need.



ER-104310 **UPC pallet Alu 320 x 320 x 40 WGS-500 40 mm**

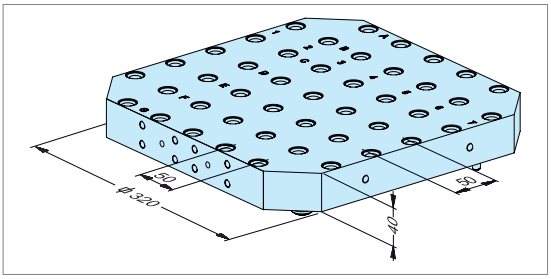
Version	Aluminum, centering segments and chucking spigots fitted, hard Z-support.Prepared with bore pattern for WGS-500 40mm GripperLink.
Application	To clamp workpieces and gauges.
Please note	Drill holes according to need.



ER-018570 **UPC pallet Alu R50 320 x 320 x 40 mounting surface ground / anodized**

ER-016003 **UPC pallet Alu R50 320 x 320 x 40 mounting surface ground**

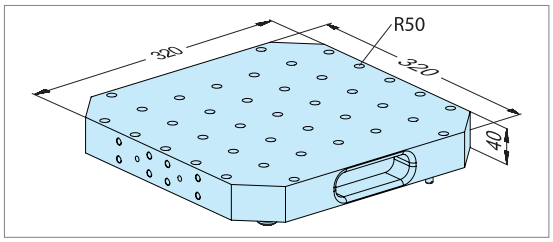
Version	Aluminum with 50 mm grid, pattern borehole ø 12F7, M12 thread. Centering segments and chucking spigots fitted. Hard Z-support.
Application	Basis for gauges and workpieces.



EROWA UPC

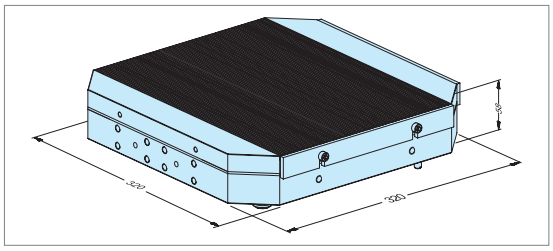
Pallets

ER-107510 **UPC pallet Alu R50 320 x 320 x 40 mounting surface milled**



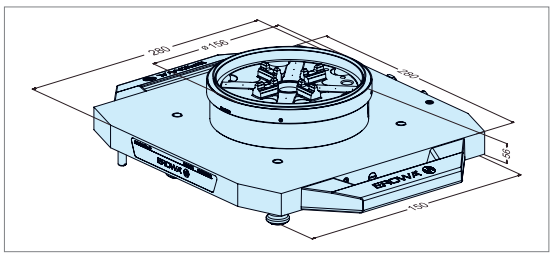
Version Aluminum, centering segments and chucking spigots fitted, hard Z-support, integrated handles. Hole grid R50 for M10 nut inserts (option). Mounting surface milled.
Application To mount workpieces and gauges.
Option ER-032503 Insert nuts M10 (set of 12).

ER-137239 **UPC magnet pallet Neomicro 320 x 320 x 58 mm**



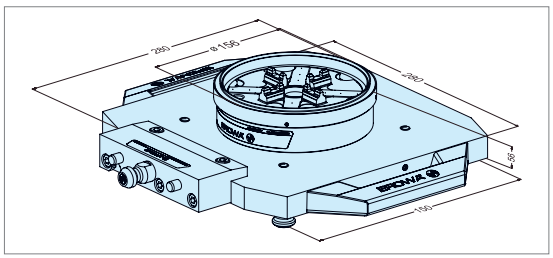
Version UPC pallet with fitted magnetic plate, 320 x 320 x58. Manual clamping and unclamping with a spanner supplied.
Application Clamping workpieces for surface and profile grinding, EDM and high-frequency milling.

ER-136055 **Adapter pallet UPC PowerChuck P manual**



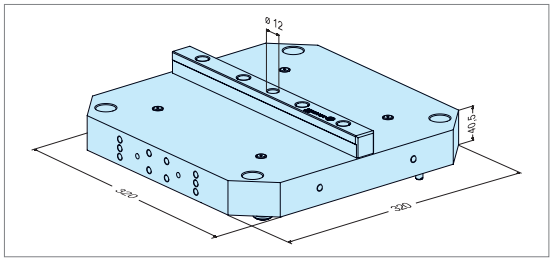
Version UPC adapter pallet with PowerChuck P fitted.
Connections On the side of the pallet.
Application For the manual change of the adapter plate on the UPC chuck.

ER-115304 **Adapter pallet UPC PowerChuck P automatic**



Version UPC adapter pallet with PowerChuck P fitted.
Connections On the underside of the pallet, suitable for all UPC chucks with air couplings.
Application For the automatic change of the adapter plate to the UPC chuck with a handling facility.

ER-048377 **UPC Alignment pallet 320 x 320 x 40 mm**



Version UPC pallet with ground alignment rail and four Z-measuring surfaces.
Application Alignment of the angle position and determination of the center and the Z-values of UPC chucks.

EROWA UPC

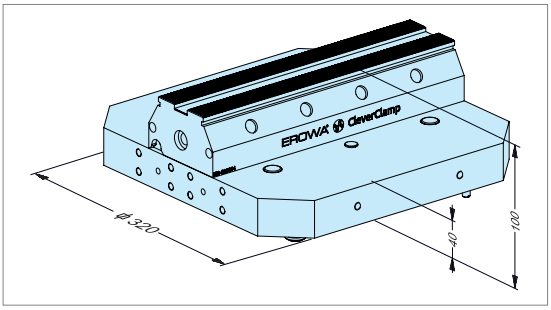
Pallets CleverClamp System

ER-099318	Base UPC mono CleverClamp

auto

Version: Combination of UPC aluminum pallet with 320 CleverClamp rail; centering segments and chucking spigots fitted. Z-Support hard.

Application: Optimal accessibility for 5-axis applications with single and multiple fixtures.

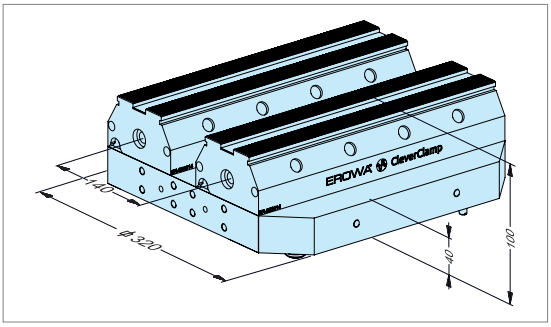


ER-099317	Base UPC duo CleverClamp

auto

Version: Combination of UPC aluminum pallet with two CleverClamp 320 rails; centering segments and chucking spigots fitted. Z-support hard.

Application: Optimal for multiple fixtures and for clamping big workpieces.

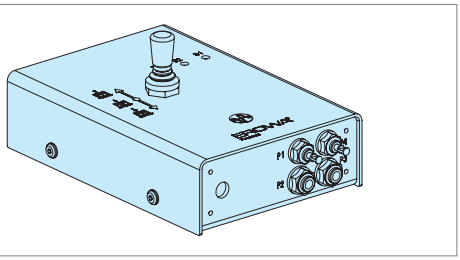


EROWA UPC

Operation

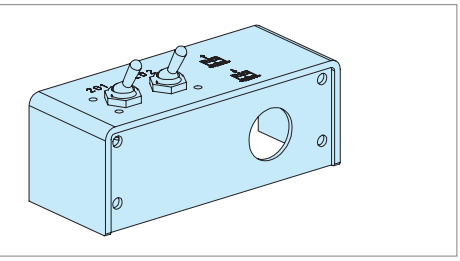
ER-008988 Manual control unit

Version	Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC: opening/reclamping/cleaning.
Application	Operation of chucks on machines.



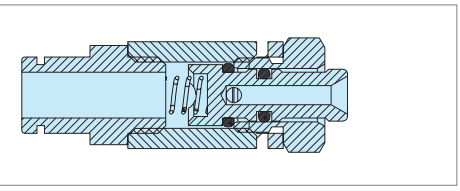
ER-039466 Additional valve double

Version	For mounting to the manual control units ER-008988 and ER-073872, incl. set of hoses.
Application	Operating of two separate chucks with one single control unit.



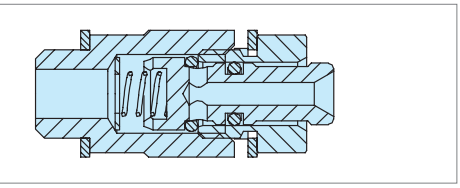
ER-016531 UPC air jet connection

Version	Valve for the manual operation of UPC ER-074527 and ER-070649 with an air jet.
Application	To be fitted on UPC cover.



ER-018168 UPC P air jet connection

Version	Valve for the manual operation of UPC P ER-016841 with an air jet.
Application	To be fitted on UPC P cover.

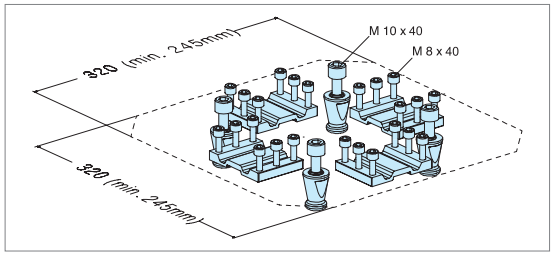


EROWA UPC

Auxiliary equipment

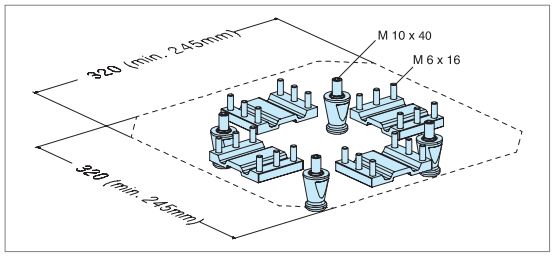
ER-024932 UPC centering segments and chucking spigots, for mounting from above

Version	Four segments and chucking spigots for UPC, including bolts.
Application	To produce special UPC pallets.
Mounting	With bolts through the pallet from above.
Note	Easy to assemble on the UPC chuck.



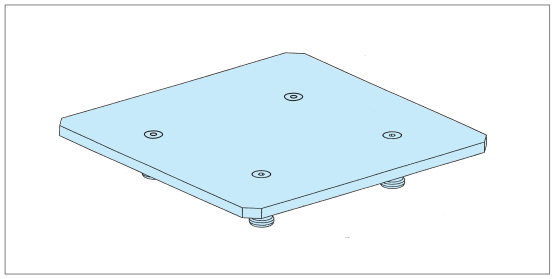
ER-024562 UPC centering segments and spigots to mount from lower side

Version	Four segments and chucking spigots for UPC, including bolts.
Application	To produce special UPC pallets.
Mounting	With bolts through the pallet from below.
Note	Easy to assemble on the PreSet Basic UPC presetting station.



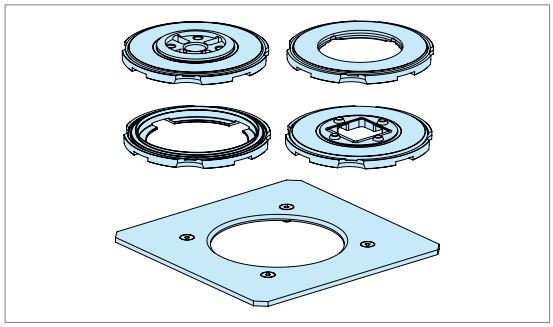
ER-012444 Cover for UPC

Version	Aluminum.
Application	Cover for UPC.



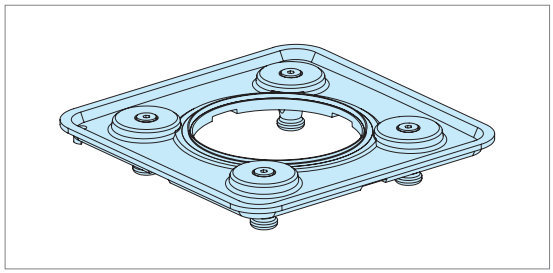
ER-094178 Cover set for UPC / ITS

Version	Aluminum with inserts, to protect UPC chuck when used wih holder ø72, pallet ø115, pallet ø148, electrode holders ITS 50 C.



ER-018247 Cover UPC pallet ø 148

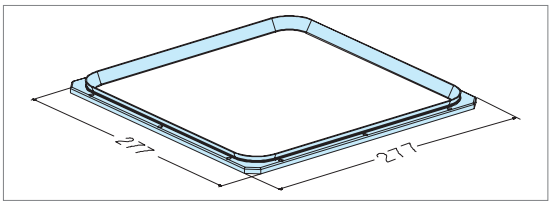
Version	Aluminum. Cover for UPC ER-070649.
Application	Protects UPC system when ø 148 mm pallets are used in the ITS central chuck.



EROWA UPC

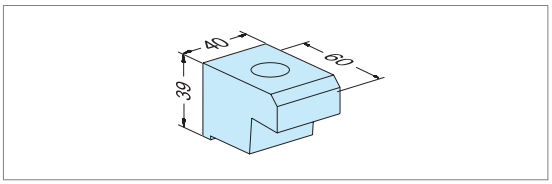
Auxiliary equipment

ER-016650 UPC sealing kit



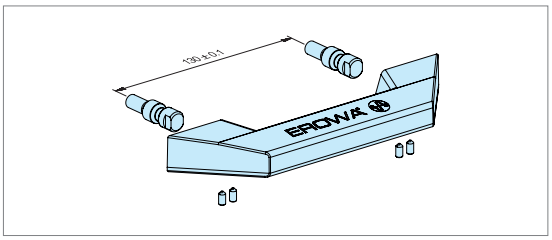
Version	Rubber seal and frame.
Application	To seal the UPC P against chips.
Mounting	With supplied bolts.
Please note	Fits UPC No. ER-016841/ER-070649/ER-074524/ ER-078728.

ER-018718 UPC clamping bracket 4 pieces



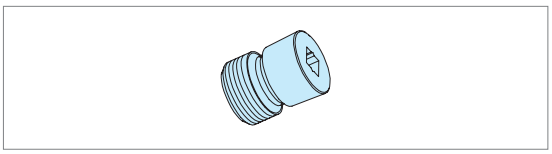
Version	High tension steel, mounting accessories not included.
Application	To mount UPC chucks to machine tables.
Please note	Fits UPC chuck No. ER-016841/ER-070649/ER-074524/ ER-078728.

ER-115355 Handle 2 pieces



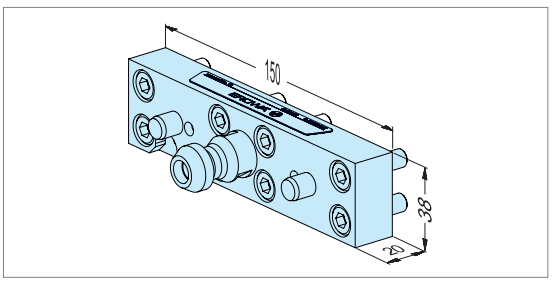
Version	Aluminum handle.
Application	Handle for UPC pallets.
To fit	Fit into the prepared threads with enclosed attachment bolts according to instructions.

ER-018817 Sealing bolt M12 x 16 50 pieces



Version	Set of 50, including square wrench.
Application	Plastic bolts to seal grid boreholes that are not in use. Suitable for ER-018570 and ER-016003.

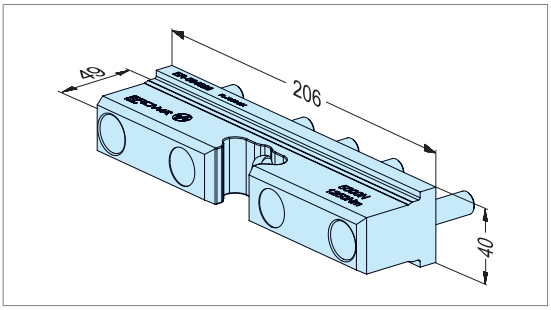
ER-036347 GripperLink RCS 38 mm



Version	Coupling for UPC pallets, mounting accessories included.
Application	Suited for UPC pallets to be used on EROWA handling devices with the «RCS» coupling System.

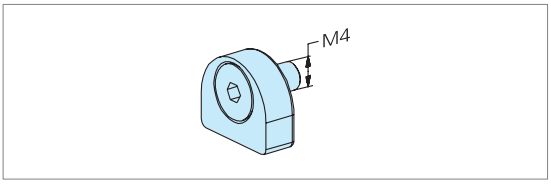
ER-094828 GripperLink WGS-500 40 mm without air connection

Version Coupling kit incl. screw set, for mounting on MTS or UPC pallets.
Application For pallets on EROWA handling units that are equipped with the WGS-500 exchange gripper system.



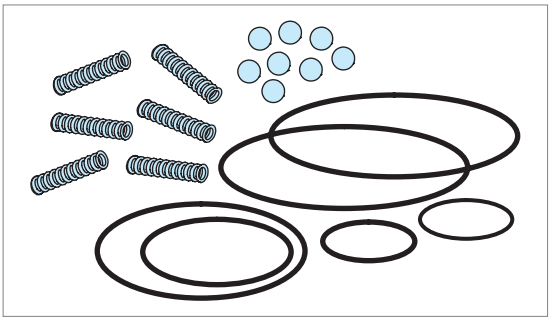
ER-035294 EWIS™ Rapid chip with chip holder RCS with chip ø 3 x 13.5 mm

Version Holder with built-in data carrier. EWIS chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.



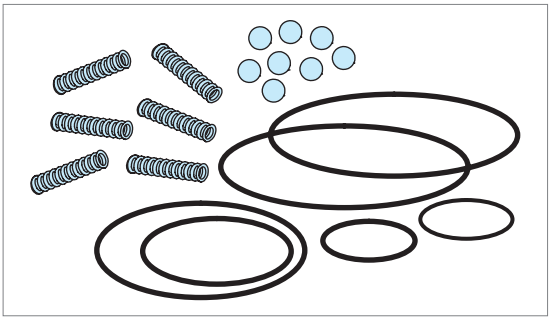
ER-023121 Repair kit for UPC O-rings, springs, balls for ITS 070649

Version All the wearing parts of UPC ER-016092, ER-016093, ER-070649 and ER-074524.
Application Dismantle UPC according to instructions supplied, replace parts.
Note Each UPC is supplied with an operating manual, which should be kept for reference.



ER-023120 Repair kit for UPC P O-rings, springs, balls

Version All the wear parts of UPC P ER-016841, ER-078728 and ER-028784.
Application Dismantle UPC P according to instructions supplied, replace parts.
Note Each UPC P is supplied with an operating manual, which should be kept for reference.

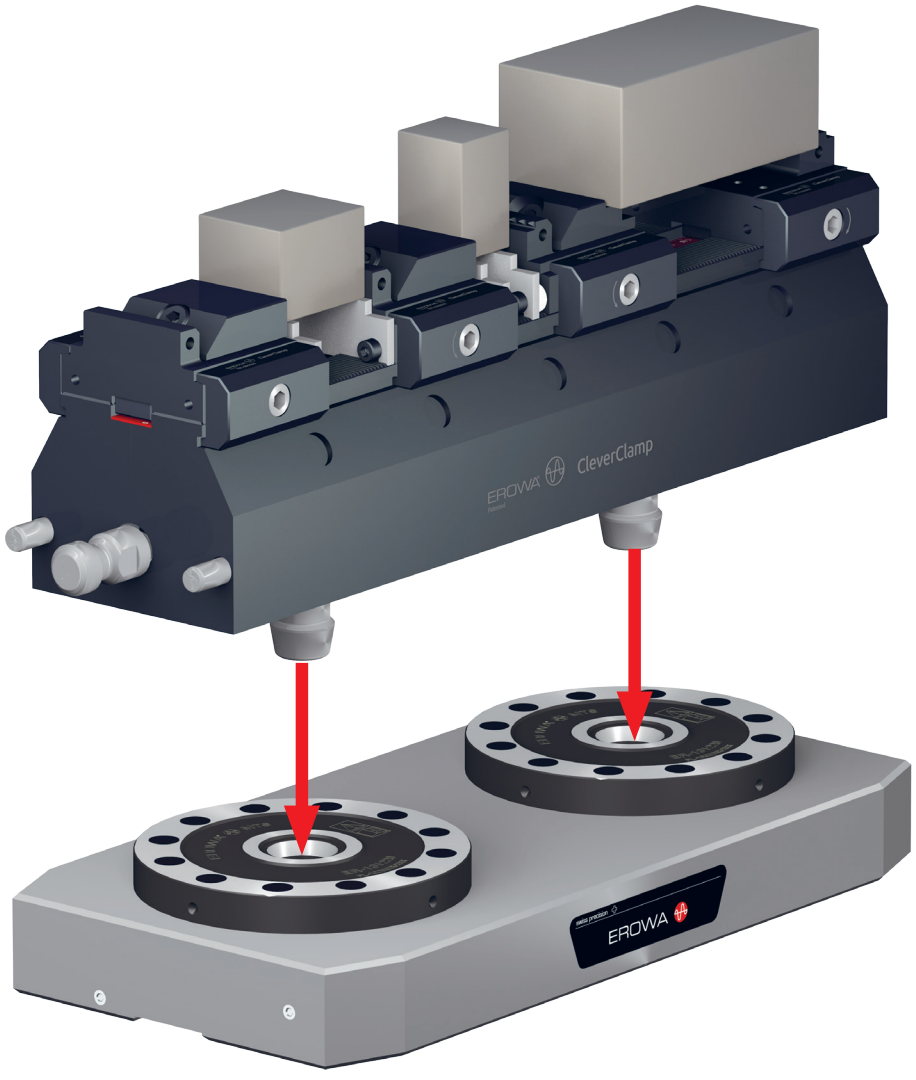


EROWA CleverClamp System

The flexible workpiece clamping system for chip-cutting processes

The EROWA CleverClamp system is a modular and universal workpiece clamping system. It is simple to operate and can be used in a wide variety of ways.

CleverClamp base rails are fitted directly to the machine table, a tombstone, a pallet, etc. Thanks to the standardized interface, they can be universally used in EROWA's ITS, UPC and MTS palletizing systems.



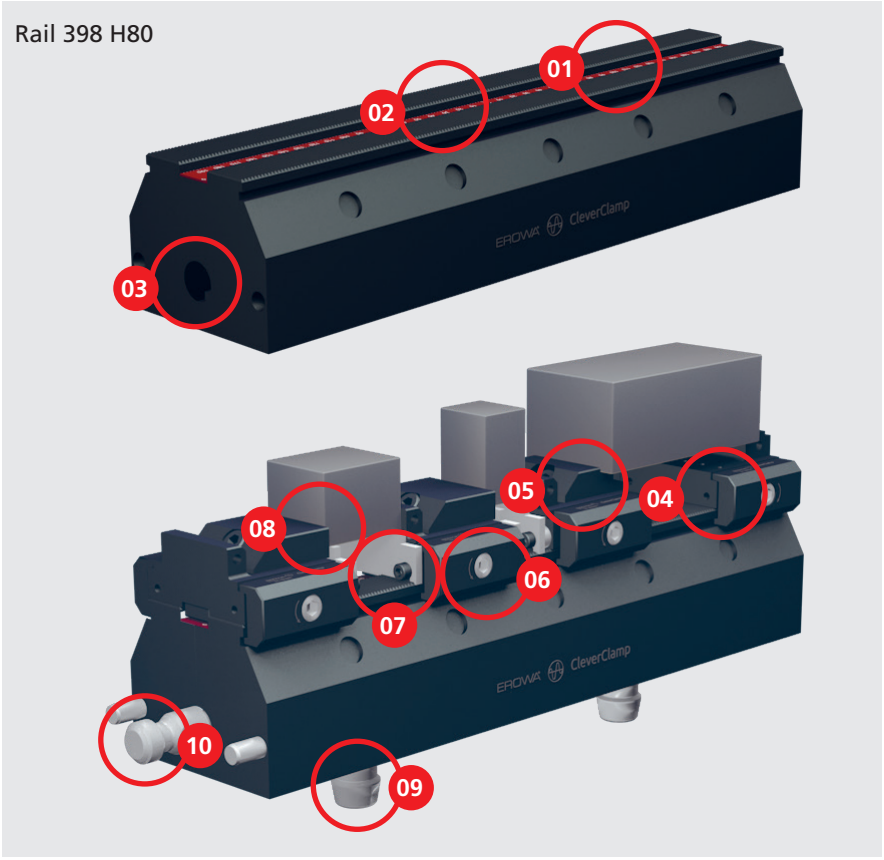
Applications

Handling

Manual / Loading facility / Robot

Function

Rail 398 H80



01 | Precise
Steel, hardened and ground, 2mm positioning grid.

02 | Scale
for the quick positioning of the clamping elements.

03 | Automation
Attachment borehole for the coupling required for automatic handling.

04 | Stop element

05 | Clamping element
Depending on requirements, as a pull-down or linear clamping element.

06 | Locking bolt
Threaded spindle mechanism for the quick attachment of the modules.

07 | Support
Various versions and heights.

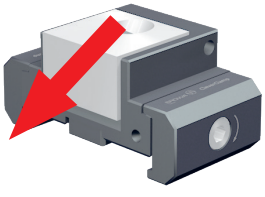
08 | Clamping jaw
A suitable stop surface for every clamping position.

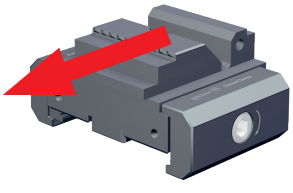
09 | Chucking spigot
For direct clamping in the EROWA MTS tooling system.

10 | Automation coupling (option)
More productive machine hours through automatic loading.

Technical data - Clamping elements

	Pull-down clamping elements	Linear clamping elements
Clamping range	0 - 4.1mm	0 - 5mm
Clamping power	up to 28kN	up to 16kN





EROWA CleverClamp system in operation

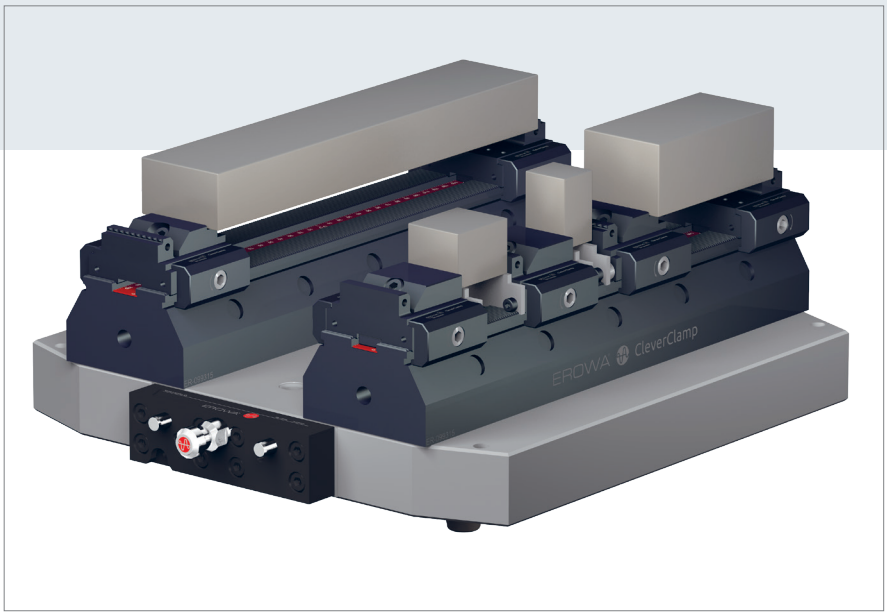
Perfect combination

The CleverClamp system clamps any workpiece and adapts to any machine situation. Suitable clamping and stop elements can be placed quickly with the help of the precise positioning grid. The base rails take up hardly any room but still provide a great deal of space for the flexible attachment of a wide variety of workpiece shapes and sizes.

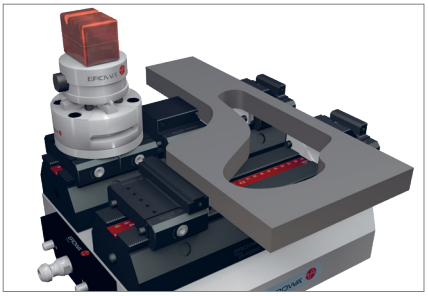
FACTS

- Single and multiple clamping
- High clamping power
- Clamping surfaces in different finishes.
- Modular extensions available
- Precise 2 mm positioning grid
- Wide range of models
- Clamping rails can be automated directly

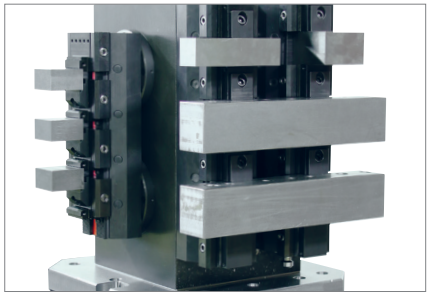




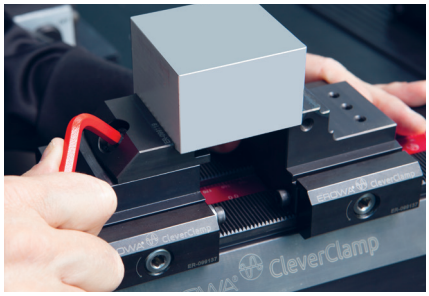
Easily clamp different workpieces with different clamping elements on one pallet and increase the machine's cycle time through multiple clamping and automation.



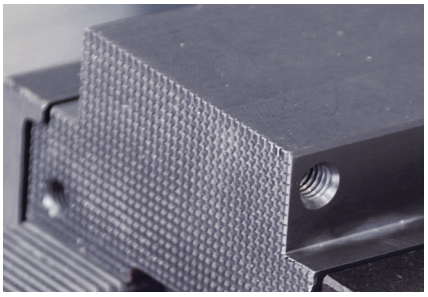
A wide selection of clamping elements and jaws holds any workpiece.



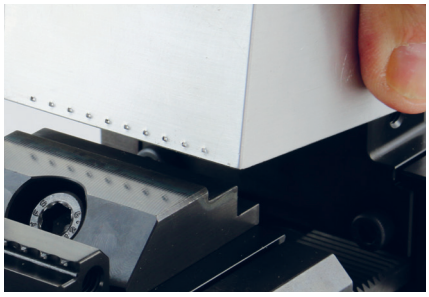
CleverClamp mounted on EROWA mineral cast cube. Clamp many workpieces and make optimized use of the full working area of the machine.



Set-up and changeover in a few steps. Position and fasten the stop and clamping elements according to the size of the workpiece. Then clamp the workpiece.



Clamping surface with grip contour - CleverClamp clamping jaws are available in various designs and, depending on your requirements, with different characteristics of the clamping surfaces.



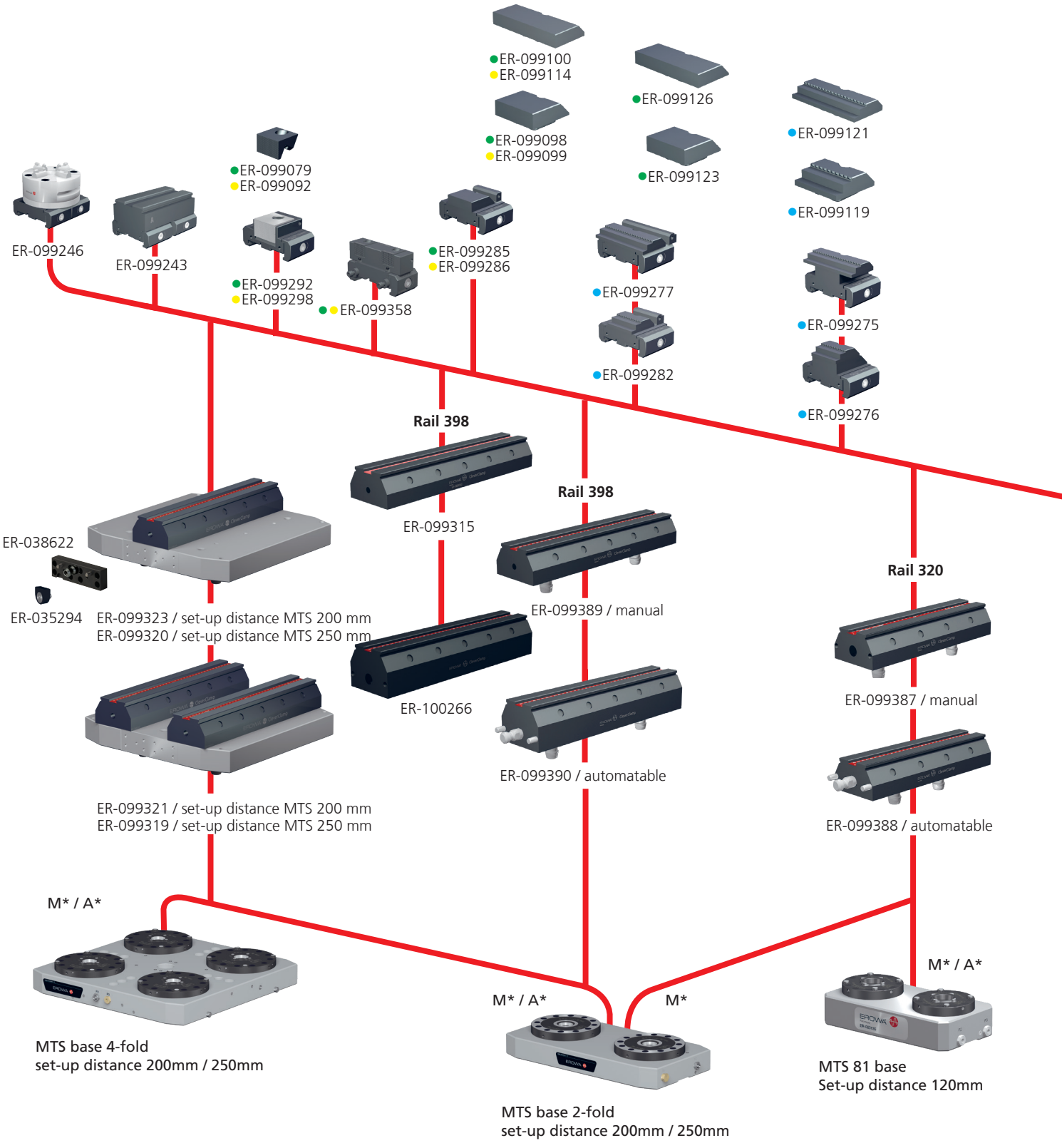
Ingenious stamping contour - The workpieces are held at 3 mm minimal clamping height with up to 1.6 tons of holding power form and friction locked.



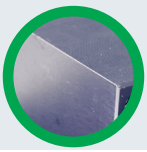
The CleverClamp rail can be directly automated and used throughout the EROWA MTS tooling system.

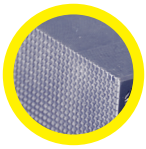
EROWA CleverClamp System

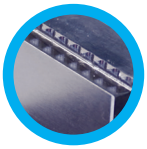
The components



EROWA provides you with a full range of products - everything fits together!


smooth


Grip contour


Stamping contour

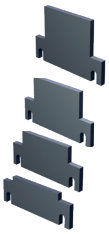
The color icon describes the respective surface finish.

Various accessories

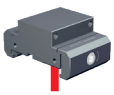

●● ER-099166

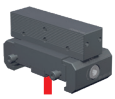

● ER-099195


● ER-099164

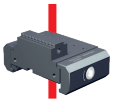

Parallel supports

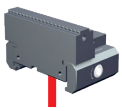

Parallel supports - wide

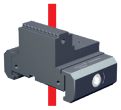

●● ER-099272


●● ER-099332

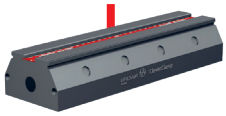

● ER-099267

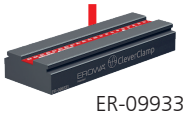

● ER-099269

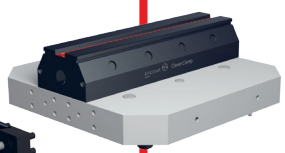

● ER-099258


● ER-099263

Rail 320

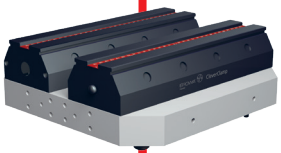

ER-099314


ER-099331

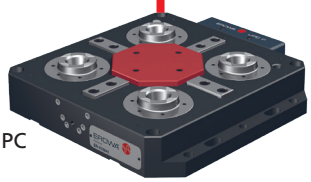

ER-099318 / UPC


ER-036347


ER-035294

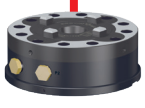

ER-099317 / UPC

M* / A*


UPC

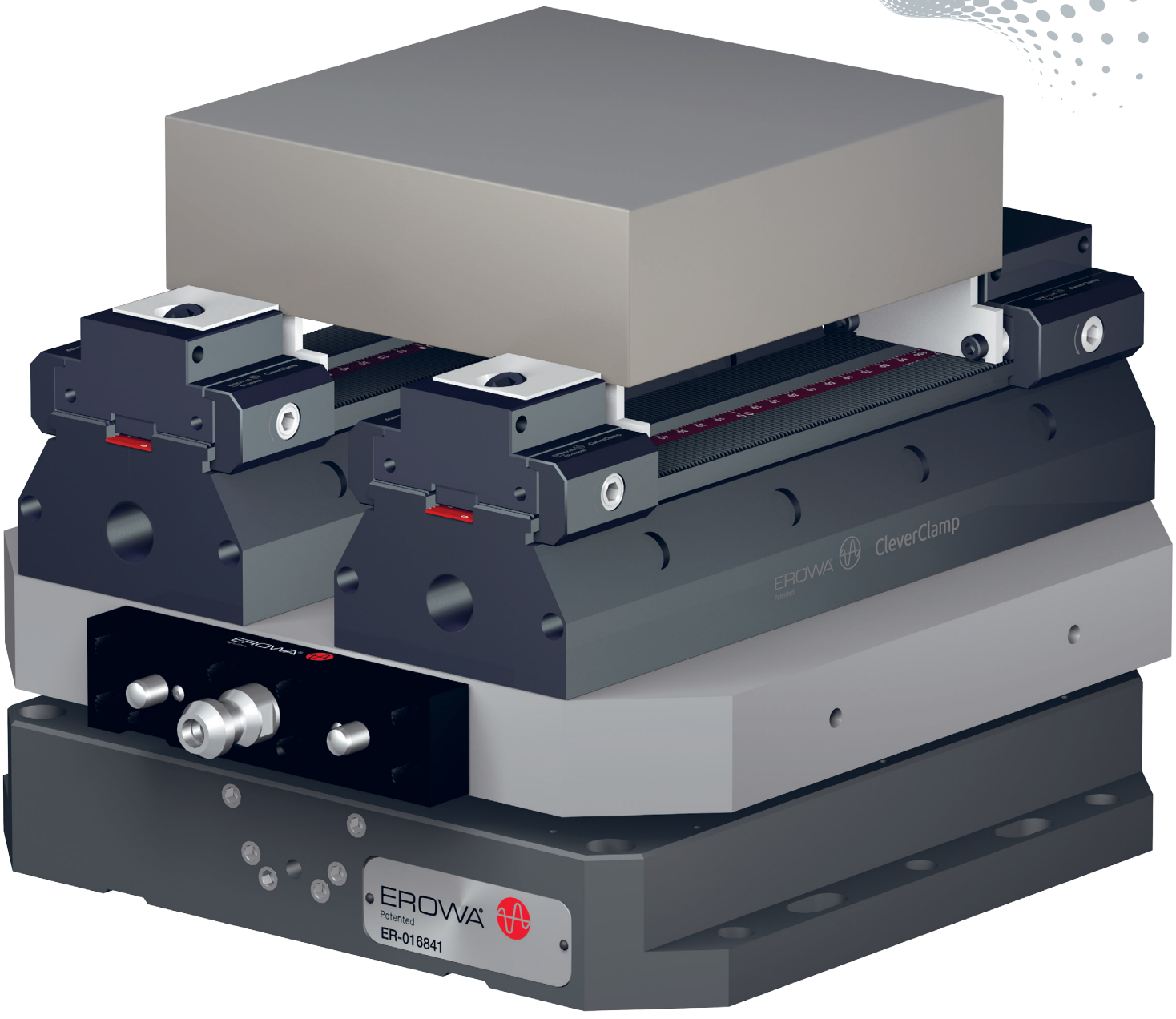

ER-099330


PowerChuck P


MTS Chuck S-P/A

M* = manual operation
A* = automatic operation

CleverClamp System


EROWA
CleverClamp
EROWA
Patented
ER-016841

To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA CLEVERCLAMP SYSTEM

CleverClamp System Rails 98
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CleverClamp System Base rails UPC 102
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CleverClamp System Stop elements 106
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CleverClamp System Accessories 109

For chip-removing processes

For EDM sinking

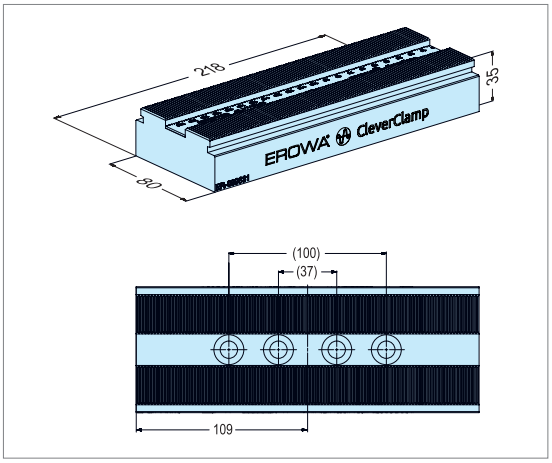
For WEDM

EROWA CleverClamp System

Rails

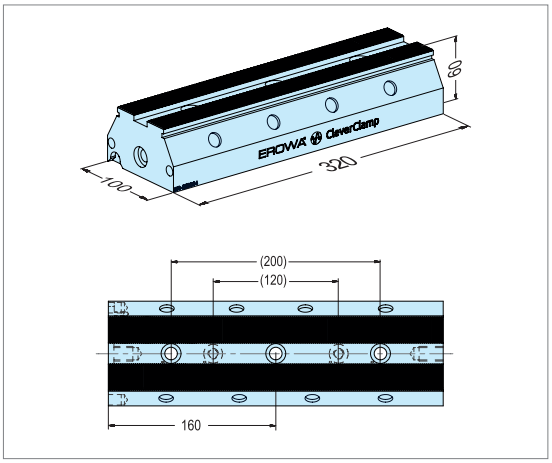
ER-099331	Rail 218 H35 CleverClamp

Version	Steel, hardened. Clamping element carrier, length 218mm, height 35mm, with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
To fit	To fit on grid plates R50, pallets, tombstones and machine tables. 4x M10 x35 socket head bolts.
Accessories	Clamping and stop elements, etc.
Note	Can be fitted directly to pallet P ø 148 Inox (ER-041912.



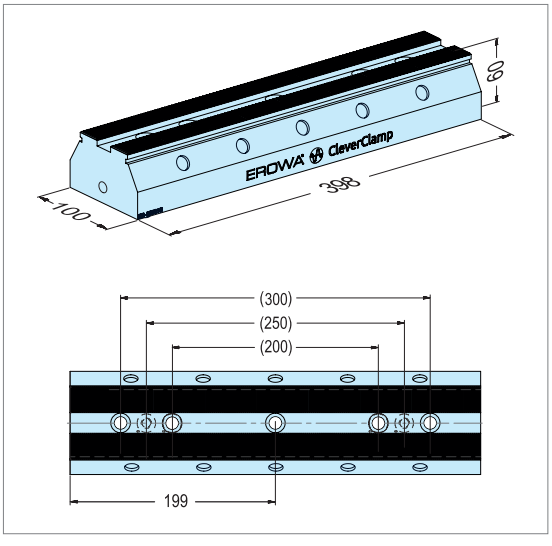
ER-099314	Rail 320 H60 CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To mount on R50 grid plates, pallets, tombstones and machine tables
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (M) or MTS81, 120mm set-up distance (A/M).



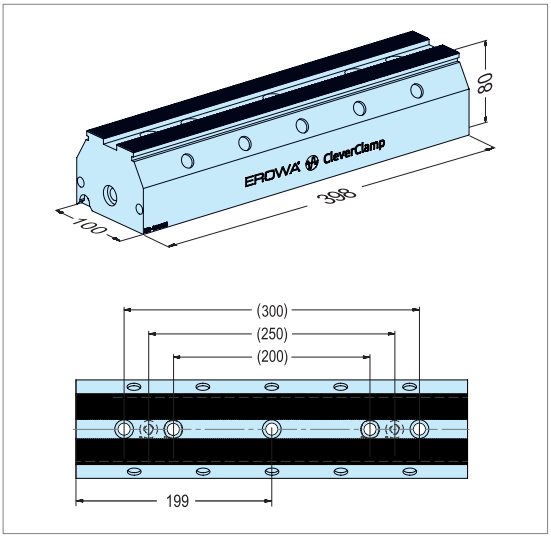
ER-099315	Rail 398 H60 CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To fit on R50 grid plates, pallets, tombstones and machine tables.
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (M) or 250mm set-up distance (M).



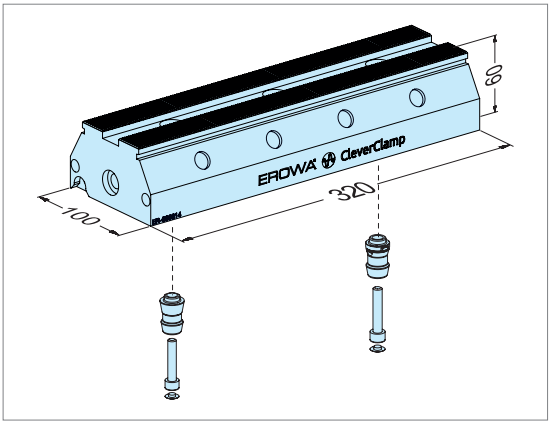
ER-100266 Rail 398 H80 CleverClamp

Version	Steel, hardened. H80 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To fit on R50 grid plates, pallets, tombstones and machine tables.
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (A/M) or 250mm set-up distance (A/M).



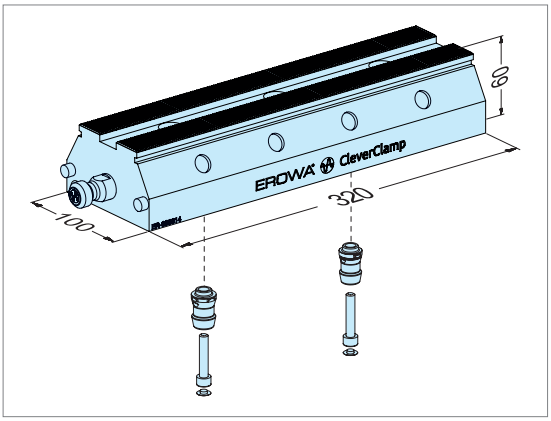
ER-099387 Rail 320 H60 manual CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, manual.
Operation	Manual application on MTS81 base plates with 120mm set-up distance and MTS base plates with 200m set-up distance.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Manual application.



ER-099388 Rail 320 H60 automated CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, automatic, and Grip-perLink.
Operation	Automated application on MTS81 base plates with 120mm set-up distance.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Automated application.

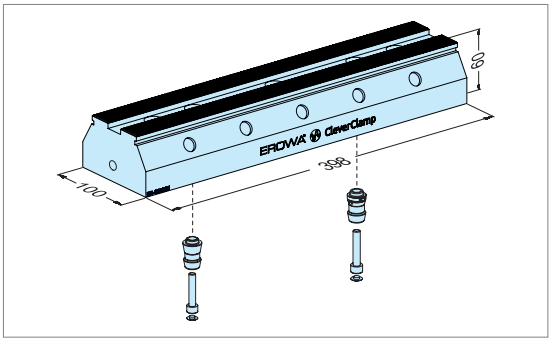


EROWA CleverClamp System

Rails

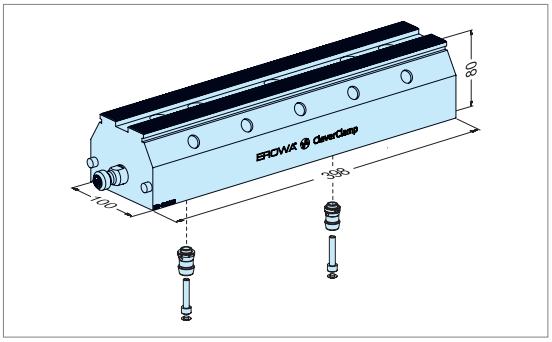
ER-099389	Rail 398 H60 manual CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, Manual.
Operation	Manual application on MTS base plates with 200/250mm set-up distance.
Application	Serves as a basis to clamp workpieces with various CleverClamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Manual application.



ER-099390	Rail 398 H80 automated CleverClamp

Version	Steel, hardened. H80 clamping element carrier with 2mm positioning grid. With MTS spigot, automatic, and GripperLink.
Operation	Automated application of MTS base plates with 200/250mm set-up distance.
Application	Serves as a base to clamp workpieces with various CleverClamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Automated application.



EROWA CleverClamp System

MTS Base rails

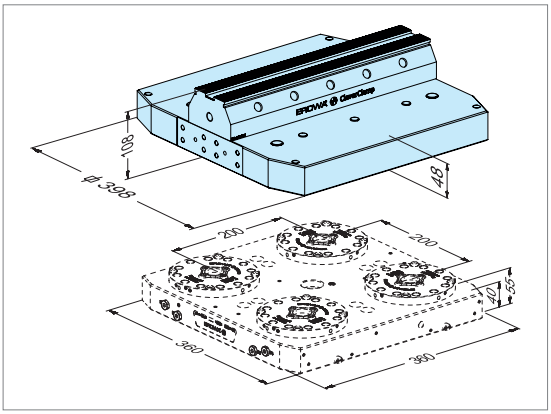
ER-130141 MTS pallet 398 x 398 / 200 CleverClamp mono

auto

Version: Aluminum pallet, 4-fold, pitch 200mm. With hard Z supports and 1 x CleverClamp rail 398. Excluding chucking spigots.

Application: Optimal accessibility for 5-axis machining with single and multiple part clamping.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



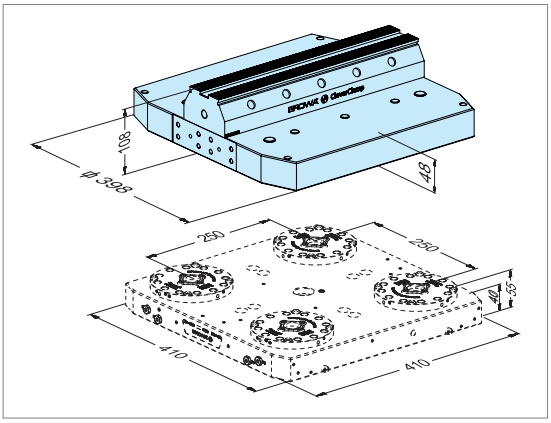
ER-130417 MTS pallet 398 x 398 / 250 CleverClamp mono

auto

Version: Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports and 1 x CleverClamp rail 398. Excluding chucking spigots.

Application: Optimal accessibility for 5-axis machining with single and multiple part clamping.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



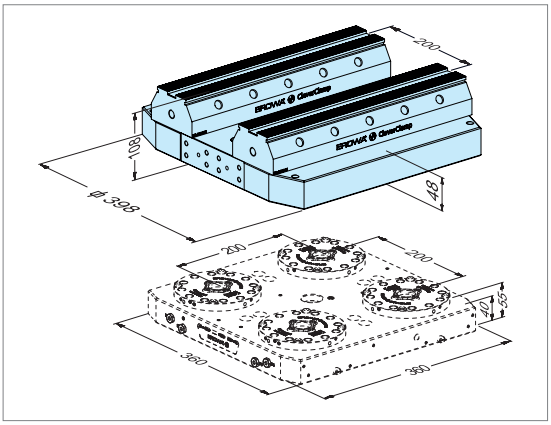
ER-130140 MTS pallet 398 x 398 / 200 CleverClamp duo

auto

Version: Aluminum pallet, 4-fold, pitch 200mm. With hard Z supports and 2 x CleverClamp rail 398. Excluding chucking spigots.

Application: Optimal accessibility for 5-axis machining with single and multiple part clamping.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



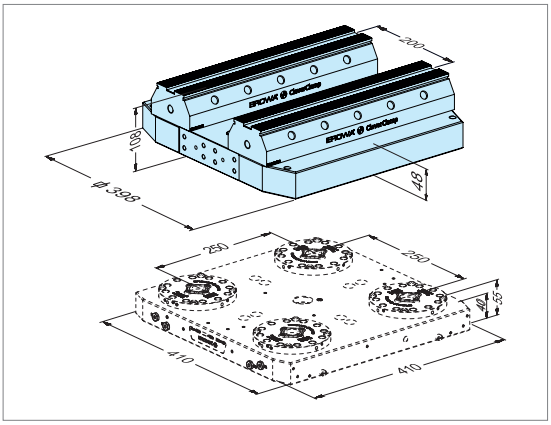
ER-130415 MTS pallet 398 x 398 / 250 CleverClamp duo

auto

Version: Aluminum pallet, 4-fold, pitch 250mm. With hard Z supports and 2 x CleverClamp rail 398. Excluding chucking spigots.

Application: Optimal accessibility for 5-axis machining with single and multiple part clamping.

Accessories: MTS chucking spigot set ER-041461 (M) or ER-041464 (A).



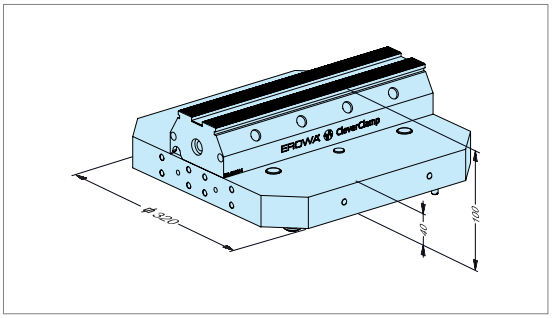
EROWA CleverClamp System

UPC Base rails

ER-099318	Base UPC mono CleverClamp

auto

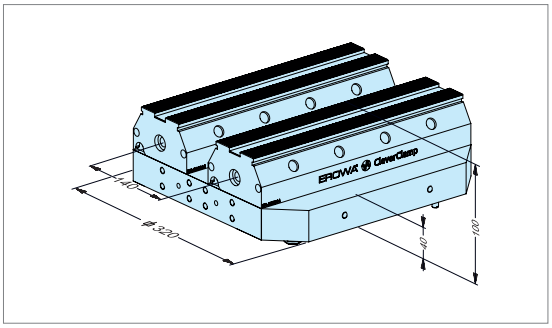
Version	Combination of UPC aluminum pallet with 320 Clever-Clamp rail; centering segments and chucking spigots fitted. Z-Support hard.
Application	Optimal accessibility for 5-axis applications with single and multiple fixtures.



ER-099317	Base UPC duo CleverClamp

auto

Version	Combination of UPC aluminum pallet with two Clever-Clamp 320 rails; centering segments and chucking spigots fitted. Z-support hard.
Application	Optimal for multiple fixtures and for clamping big workpieces.



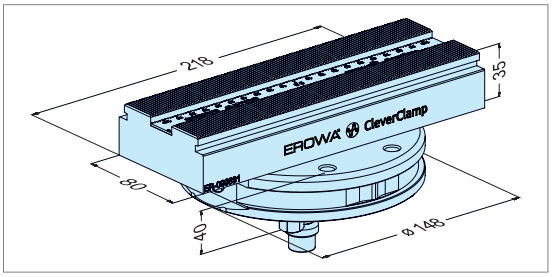
EROWA CleverClamp System

ITS Base rail

ER-099330	Pallet P ø 148 mono CleverClamp

auto 148

Version	Combination pallet P ø 148 with rail 218mm, height 35mm, CleverClamp, including chucking spigot F/M Production ER-010742.
Application	For use on all EROWA PowerChucks P and Production-Chucks 210 Combi. Optimal accessibility for 5-axis applications with single and multiple fixtures.
Please note	Compatible with EROWA MS Single and MTS 2.0 Single chucks (MTS chucking spigot P, ER-040999, required). For automated Operation, the RCS Gripper ITS 148 + 52 (ER-038662) must be used.

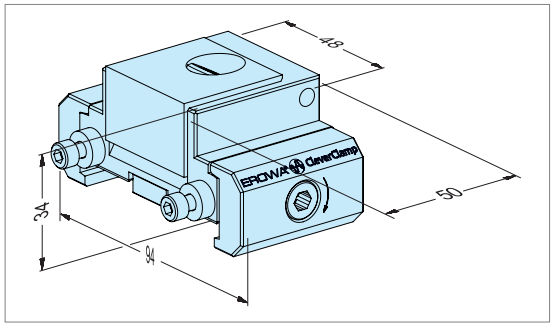


EROWA CleverClamp System

Pull down clamping elements

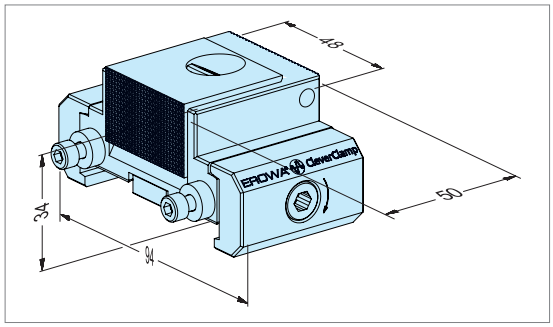
ER-099292 Pull Down Slide Multi Flat CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides smooth.
Application	Pull-down element for clamping jobs with high clamping forces. Surface: smooth. Ideal for two-side machining and for clamping workpieces with machined surfaces.
Mounting	On a CleverClamp rail.
Important	Suitable for single or multiple fixtures.
Clamping force	Up to 28kN max. at a torque of 40Nm max.
Clamping stroke	Up to 4.1mm.



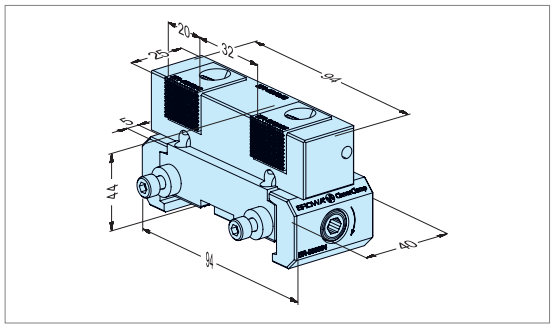
ER-099298 Pull Down Slide Multi Grip CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with grip contours.
Application	Pull-down element for clamping jobs with high clamping forces. Surface with grip contours for additional purchase.
Mounting	On CleverClamp rail.
Important	Suitable for single or multiple fixtures.
Clamping force	Up to 28kN max. with a torque of 40Nm max.
Clamping stroke	Up to 4.1mm.



ER-099358 Twin Pull Down Slide Multi Grip CleverClamp

Version	Steel, hardened; width 94mm,height 44mm; clamping side with grip / stop side with grooved contours.
Application	Stop element in the modular CleverClamp system. In combination with the stop element (ER-099332).

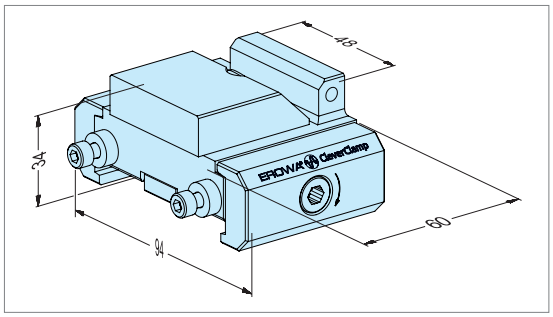


EROWA CleverClamp System

Linear clamping elements

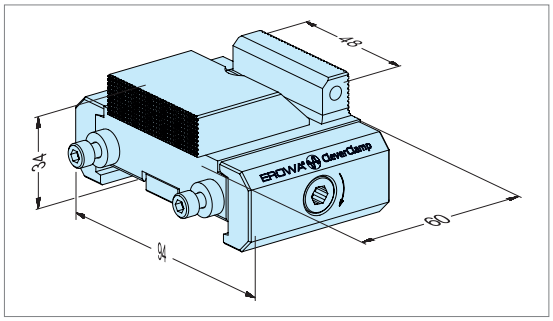
ER-099285 Linear Slide Multi Flat CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides smooth.
Application	For the linear clamping of workpieces with machined surfaces.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.



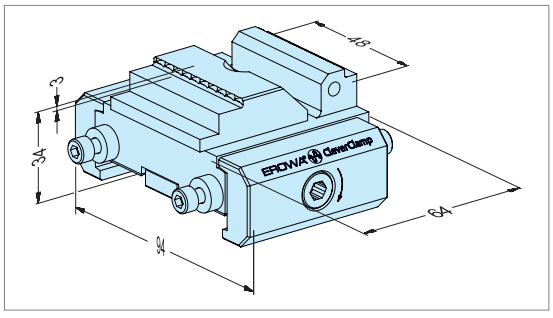
ER-099286 Linear Slide Multi Grip CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with grip contours.
Application	Linear clamping with grip contours for additional purchase.
Mountaing	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

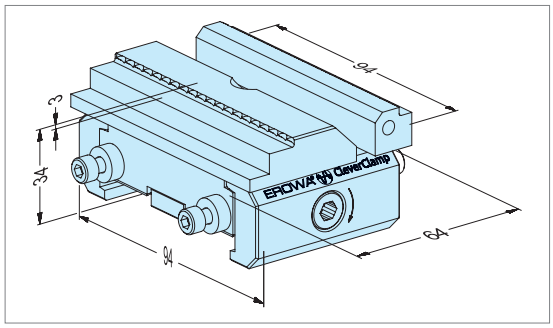


ER-099282 Linear Slide Multi Stamp CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with stamp contours
Application	Ideal for clamping blanks at the minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping. Can also be used for two-side machining.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and mutliple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

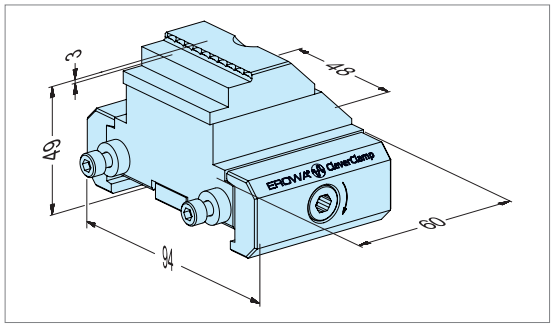


ER-099277 Linear Slide Multi Stamp Wide CleverClamp



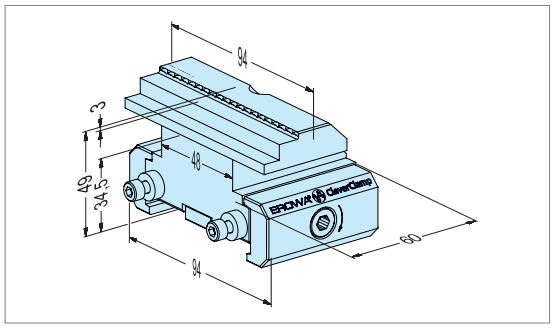
Version	Steel, hardened, width 94mm, height 34mm, clamping and stop sides with stamp contours.
Application	Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping. Can also be used for two-side machining.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099276 Linear Slide 5X Stamp CleverClamp



Version	Steel, hardened, width48mm, height 49mm, clamping side with stamp contours.
Application	Optimised machine spindle accessibility for 5-axis applications. Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Can be used for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099275 Linear Slide 5X Stamp Wide CleverClamp



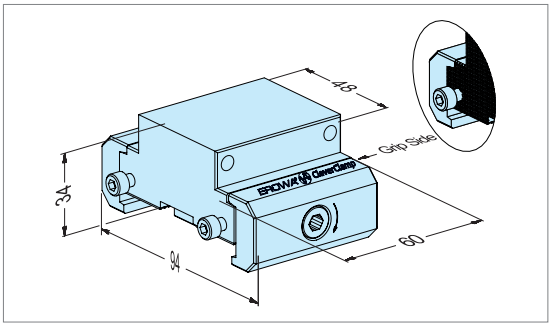
Version	Steel, hardened, width 94mm, height 49mm, clamping side with stamp contours.
Application	Optimised machine spindle accessibility for 5-axis applications. Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Can be used for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

EROWA CleverClamp System

Stop elements

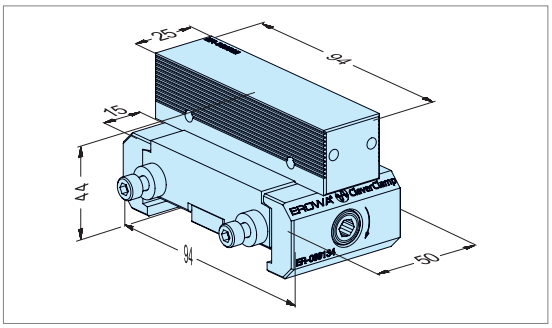
ER-099272 Stop Flat/Grip CleverClamp

Version	Steel, hardened, width 48mm, height 34mm; two stop sides: one smooth, one with grip contours.
Application	Stop element in the modular CleverClamp system. Smooth stop side for workpieces with a machined surface, grip side for additional purchase.
Mounting	On CleverClamp rail.



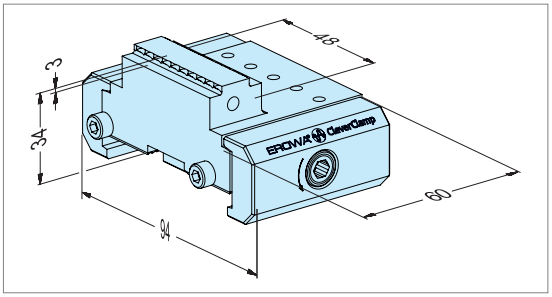
ER-099332 Stop grooved CleverClamp

Version	Steel, hardened; width 94mm, height 33mm; grooved.
Application	Stop element in the modular CleverClamp System. In combination with the double pull-down element (ER-099358).
Mounting	On CleverClamp rails.



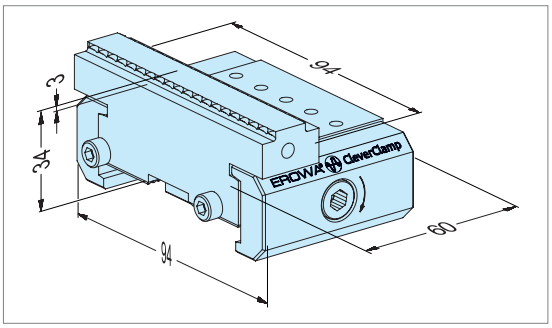
ER-099269 Stop Multi Stamp CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, with stamp contours.
Application	Stop element in the modular CleverClamp system. Stop element with stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a mimimum clamping height of 3mm.
Mounting	On CleverClamp rail.

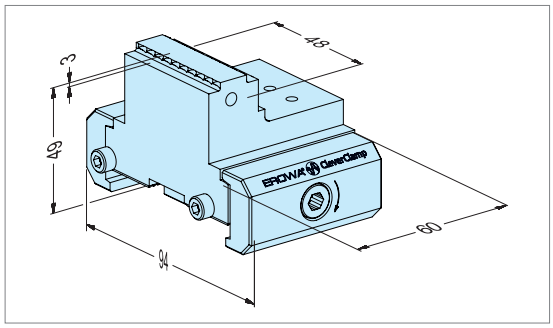


ER-099267 Stop Multi Stamp Wide CleverClamp

Version	Steel, hardened, width 94mm, height 34mm, with stamp countours.
Application	Stop element in the modular CleverClamp system. Stop element with stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rails.

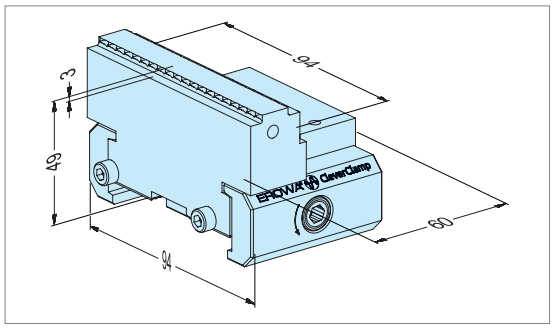


ER-099263 Stop 5X Stamp CleverClamp



Version	Steel, hardened, width 48mm, height 49 mm, with stamp contours.
Application	Stop element in the modular CleverClamp system. Stop element with better machine spindle accessiblity for 5-axis applications. With stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rail.

ER-099258 Stop 5X Stamp Wide CleverClamp

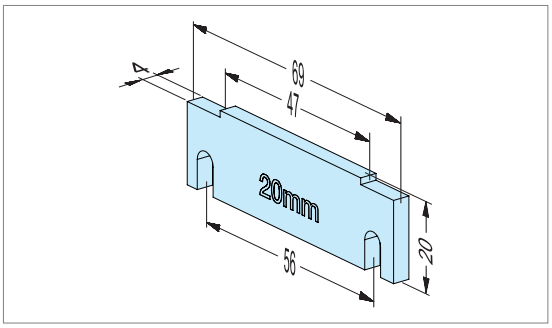


Version	Steel, hardened, width 94mm, height 49mm, with stamp countours.
Application	Stop element in the modular CleverClamp system. Stop element with better machine spindle accessibility for 5-axis applications. With stamp countours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rail.

EROWA CleverClamp System

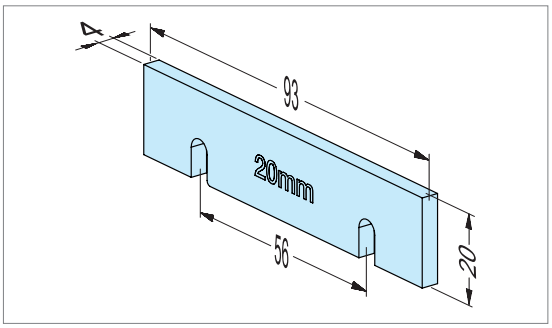
Parallel supports

ER-099204	**Support 20 CleverClamp**
ER-099206	**Support 24 CleverClamp**
ER-099227	**Support 29 CleverClamp**
ER-099228	**Support 31 CleverClamp**
ER-099229	**Support 34 CleverClamp**
ER-099230	**Support 39 CleverClamp**
ER-099231	**Support 44 CleverClamp**
ER-099232	**Support 46 CleverClamp**



Version Steel, hardened, width 47mm, height 46mm.
Application Ground support for setting the workpiece clamping height between the CleverClamp clamping and stop elements.
Important Supports of the heights 34, 39, 44 and 46 can only be used in combination with the 5-axis clamping and stop elements.

ER-099233	**Support 20 Wide CleverClamp**
ER-099234	**Support 24 Wide CleverClamp**
ER-099235	**Support 29 Wide CleverClamp**
ER-099236	**Support 31 Wide CleverClamp**
ER-099237	**Support 34 Wide CleverClamp**
ER-099238	**Support 39 Wide CleverClamp**
ER-099239	**Support 44 Wide CleverClamp**
ER-099240	**Support 46 Wide CleverClamp**



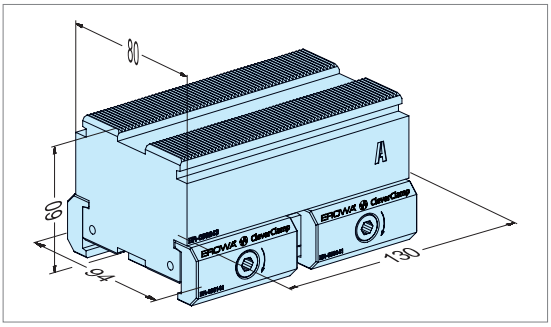
Version Steel, hardened,width 93mm, height 46mm.
Application Ground support for setting the workpiece clamping height between the CleverClamp clamping and stop elements.
Important Supports of the heights 34, 39, 44 and 46 can only be used in combination with the 5-axis clamping and stop elements.

EROWA CleverClamp System

Accessories

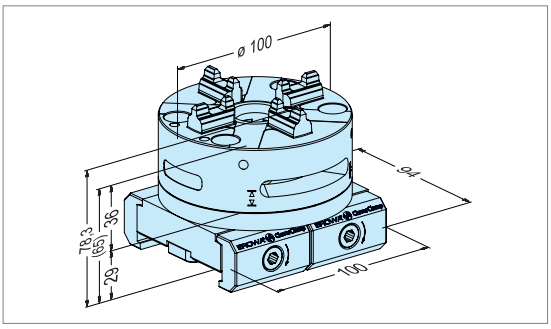
ER-099243 Elevation for rail H60 CleverClamp

Version	Steel, hardened, height 60mm, width 80mm, length 130mm.
Application	CleverClamp 5-axis elevation - enables optimal machine spindle accessibility in 5-axis applications.
Mounting	On CleverClamp rail.



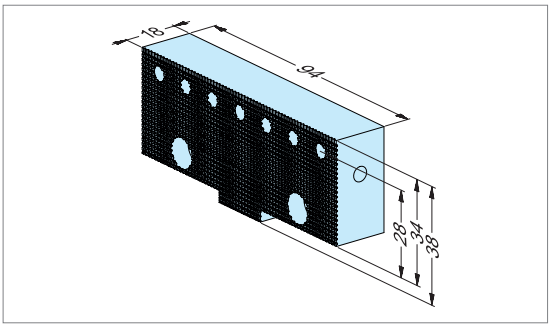
ER-099246 Quick Chuck 100 P CleverClamp

Version	CleverClamp carrier element with QuickChuck 100P, manual.
Application	Adapter between CleverClamp and EROWA ITS pallets/ holders.
Mounting	On CleverClamp rail.



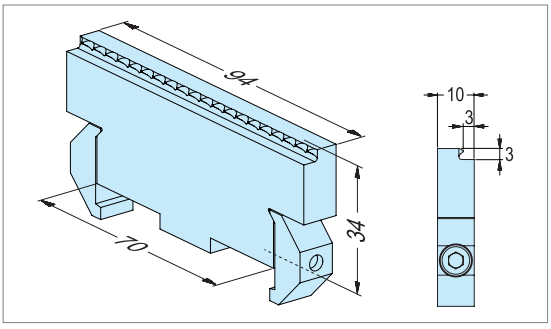
ER-099166 Stop Jaw Flat / Grip Wide CleverClamp

Version	Steel, hardened, width 94mm, height 34mm, one side smooth, the other with grip contours.
Application	Widening the stop surface for better grip when clamping wide workpieces.
Mounting	Use the bolts supplied to fit it to the front of the Clever-Clamp clamping or stop elements of your choice.
Important	Can be ideally combined for use with the 94mm-width linear jaws.



ER-099195 Stop Jaw Stamp Wide CleverClamp

Version	Steel, hardened, width 94mm, height 34mm, with stamping.
Application	Widening the stamping stop surface for better grip when clamping wide workpieces at minimum clamping height with stamping.
Mounting	Place stop jaw behind the clamping or stop element of your choice and attach with lateral bolt.

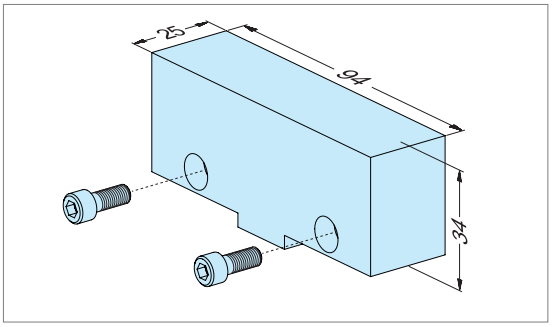


EROWA CleverClamp System

Accessories

ER-099164 Stop Jaw Soft Wide CleverClamp

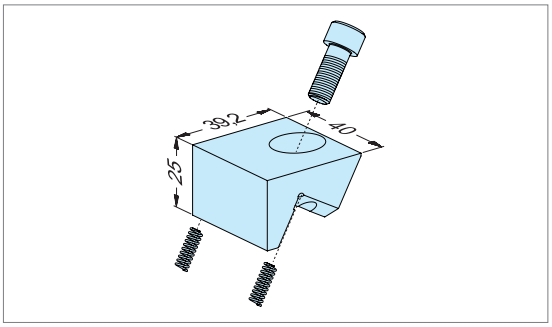
Version	Steel, soft, width 94mm, height 34mm.
Application	Soft stop jaw, ideal for milling workpiece-specific clamping contours.
Mounting	Use the bolts supplied to fit it to the front of the Clever-Clamp clamping or stop elements of your choice.



ER-099079 Pull Down Jaw Flat CleverClamp

ER-099092 Pull Down Jaw Grip CleverClamp

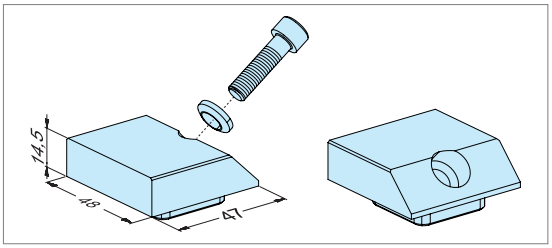
Version	Steel, hardened, stop side smooth or with grip contours.
Application	ER-099079: stop side smooth - ideal for clamping workpieces with machined surfaces. ER-099092: stop side with grip contours for additional grip.
Mounting	Can be used on all CleverClamp pull-down clamping elements.



ER-099098 Linear Jaw Flat CleverClamp

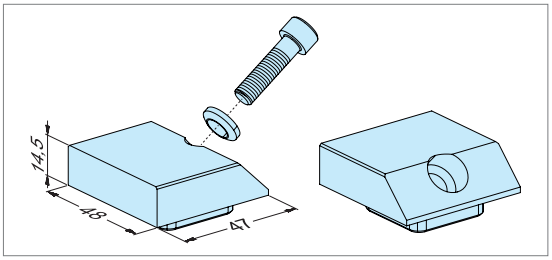
ER-099099 Linear Jaw Grip CleverClamp

Version	Steel, hardened, width 48mm, stop side smooth or with grip contours.
Application	ER-099098: stop side smooth - ideal for clamping workpieces with machined surfaces. ER-099099: stop side with grip contours for additional grip.
Mounting	Can be used on all CleverClamp linear clamping elements.



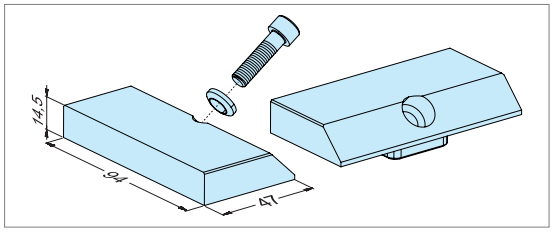
ER-099123 Linear Jaw Soft CleverClamp

Version	Steel, soft, width 48mm.
Appliacation	To produce jaws with contours of your choice.
Mounting	Can be used on all CleverClamp linear clamping elements.



ER-099126 Linear Jaw Soft Wide CleverClamp

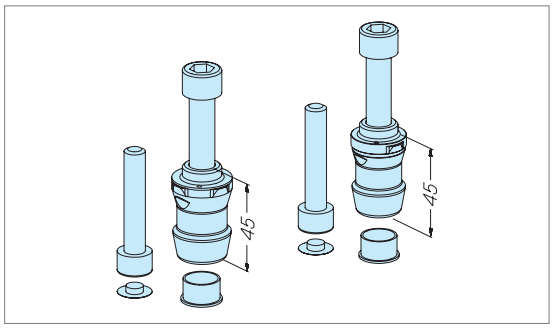
Version	Steel, soft, width 94mm.
Application	To produce jaws with contours of your choice.
Mounting	Can be used on all CleverClamp linear clamping elements.



ER-099334 MTS Spigot Set 2 automated CleverClamp

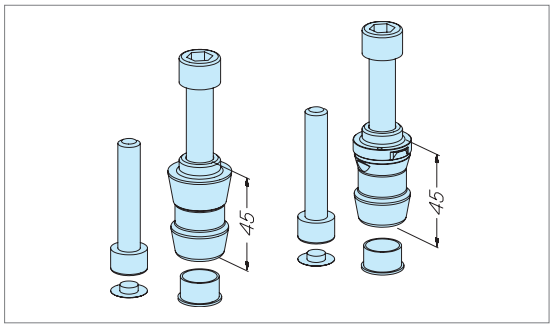
auto

Version	1 centering spigot / A, 1 compensation spigot / A.
Application	For CleverClamp rails "320 H60 automated" and "398 automated", which are automatically loaded / unloaded in the MTS System.
To be fitted	From below to the CleverClamp base rails.



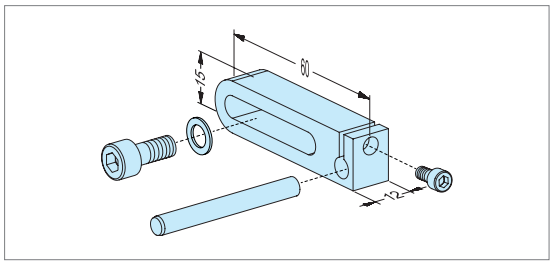
ER-099437 MTS Spigot Set 2 manuel CleverClamp

Version	1 centering spigot, 1 compensation spigot / A.
Application	For CleverClamp rails "320 H60 Manual" and "398 H60 Manual", which are manually loaded / unloaded in the MTS systesm.
To be fitted	From below to the CleverClamp base rails.



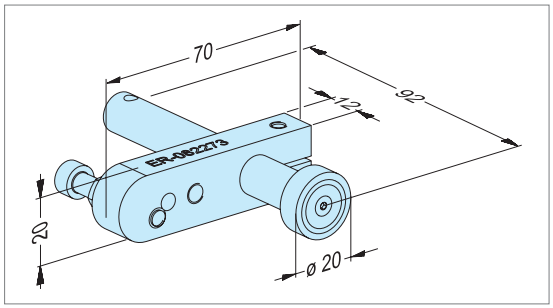
ER-099201 MillStop

Version	Adjustable stop made of steel.
Application	Lateral stop on any CleverClamp clamping or stop element.
Mounting	Use the bolts supplied to fit it laterally to the CleverClamp clamping or stop elements of your choice.



ER-082273 Magnetic stop

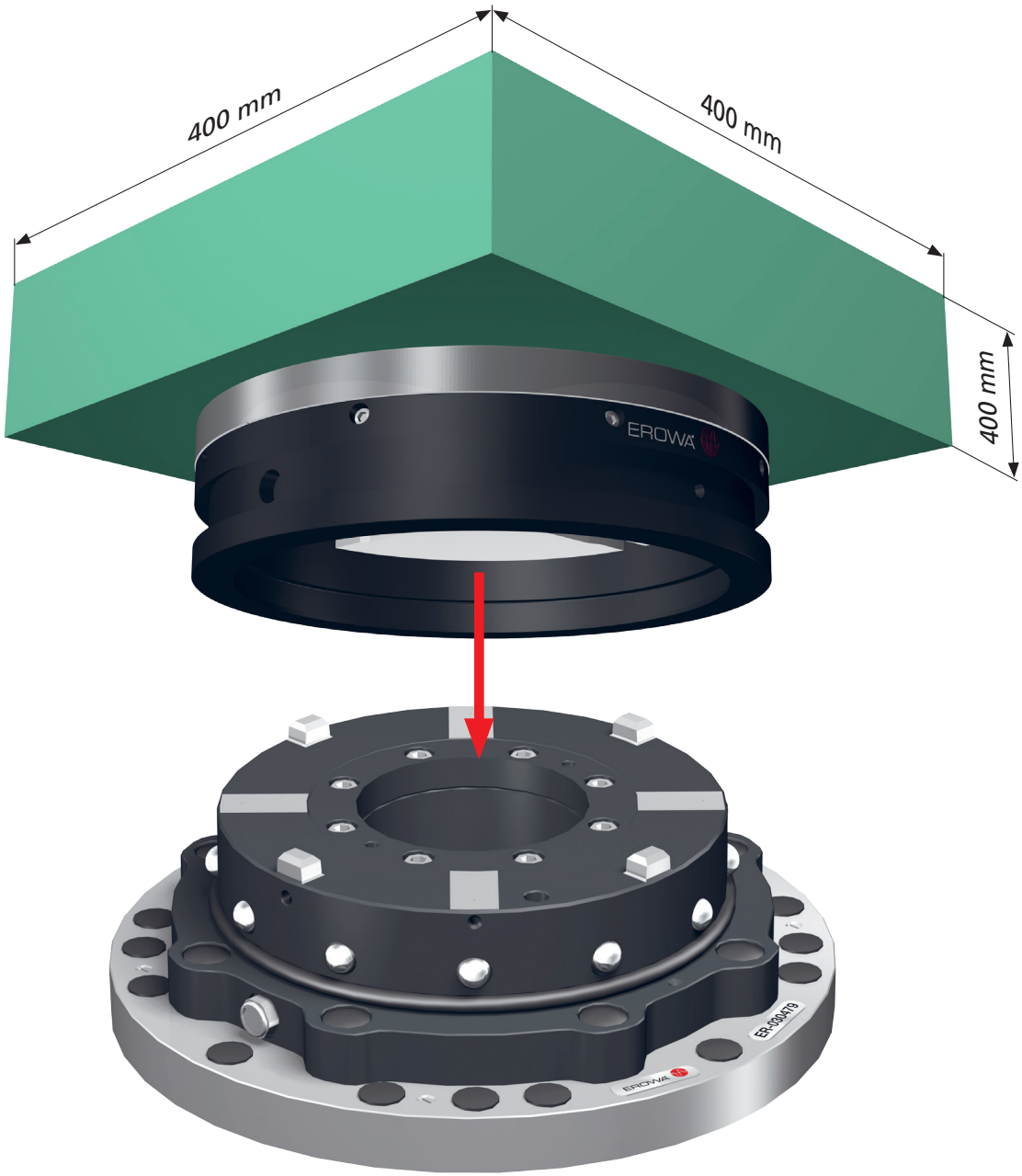
Version	Stop made of anodized aluminum.
Application	Magnetic stop used for positioning workpieces in vises.
Important	Remove the magnetic stop before machining the part.



EROWA ProductionChuck 210

Palletizing system with centralized material pass-through

The ProductionChuck 210 combines the time-tested EROWA precision with a compact design, enormous clamping power and stability. The tooling system has been designed for high machining forces in chip-cutting. In addition, the round design makes for optimal workpiece accessibility.

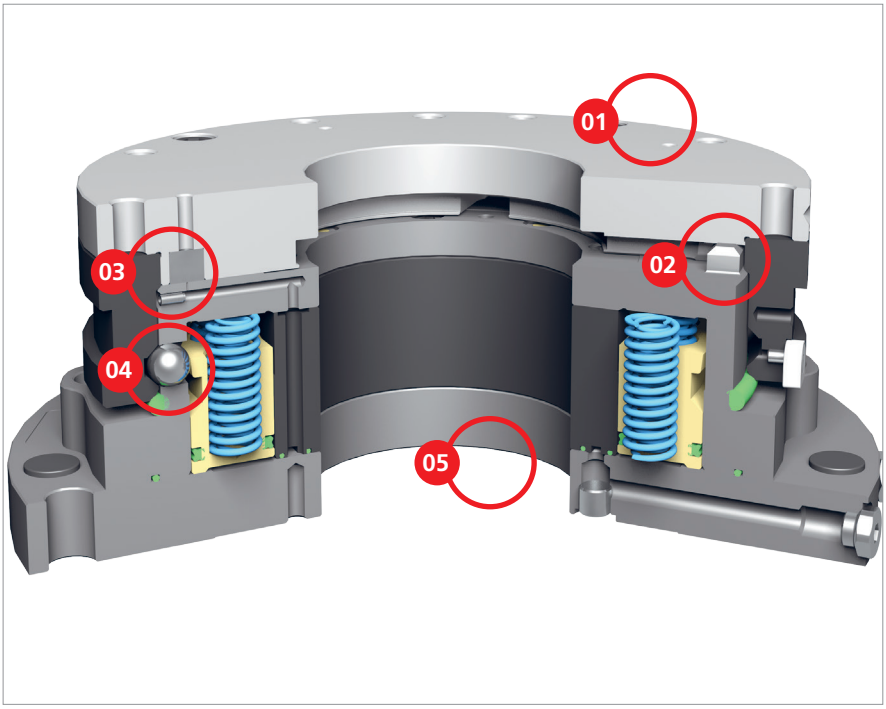


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Mounting
Workpieces, fixtures and plates are directly mounted on the PC 210 pallet.

02 | Centering system
The widely spaced centering system enables the transfer of maximum torque.

03 | Z-supports
The Z-supports ensure an optimal reduction of the tilting moment. They are automatically cleaned with air. Stagnation pressure is used to check whether the pallet is clamped correctly.

04 | Ball lock
The self-locking ball lock generates a clamping power of 20,000N.
The chuck is clamped without pressure through a spring package.

05 | Material pass-through
Rod material of up to ø 81 mm can be led directly through the chuck. The ø 81 mm boreholes also provides for air, hydraulic and vacuum lines to operate the fixtures that are clamped on pallets.

Technical data - ProductionChuck 210

	ProductionChuck 210
Pallet size	ø 210 mm
Chuck dimensions	H = 55 mm x ø 224 mm H = 75 mm x ø 254 mm
System height (chuck and pallet)	80 mm / 100 mm
Recommended workpiece size	up to 400 x 400 x 400 mm
Repeatability	< 0.002 mm
Pallet indexation	4 x 90°
Clamping power	20,000 N / 29,000 N
Clamping power (central PowerChuck P)	9,000 N generated by spring power
Opening pressure	min. 7.5 bar (pneumatically)
Chuck fits directly to:	
– machine tables with T-slots	50, 63, 100 mm
– round tables with T-slots	4 x 90°, 45°

EROWA ProductionChuck 210 in action

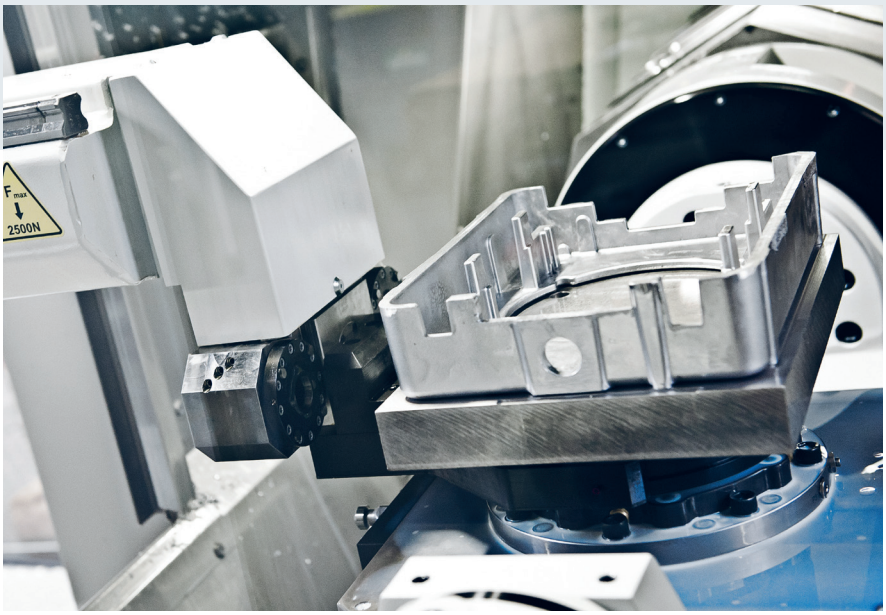
Flexible palletizing of workpieces and fixtures

The ProductionChuck 210 pallet serves as a workpiece and fixture carrier. A borehole in the center of the pallet also enables material up to a diameter of 81 mm to be led through the ProductionChuck 210.

FACTS

- Clamping power up to 29,000 N
- High degree of stability
- Compact design
- Repeatability < 0.002 mm
- Central borehole ø 81 mm
- Can be automated

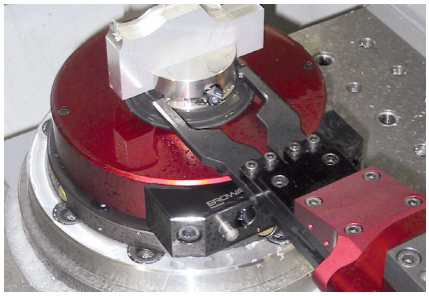




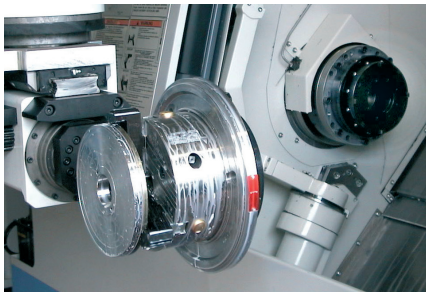
The ProductionChuck 210 palletizing system can be automated. EROWA provides a suitable handling facility for every field of application and for all technologies.



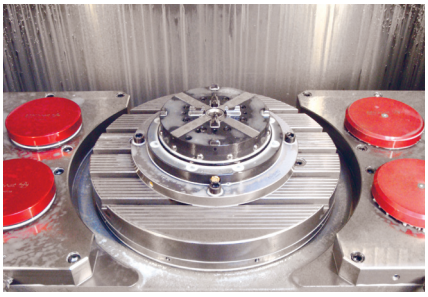
The locking mechanism situated at the circumference ensures a stable connection between the chuck and the pallet.



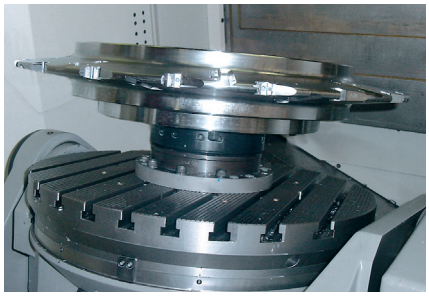
The ProductionChuck 210 Combi has an integrated EROWA PowerChuck P. In this way, ITS and ProductionChuck 210 pallets can be accommodated flexibly with both types at the same time.



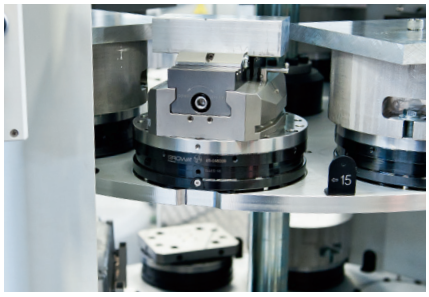
The palletizing system is also highly suitable for use on lathes and circular grinding machines.



PC 210 chucks are of a robust and compact design. Their low height provides a great deal of space for workpieces and the machining processes.



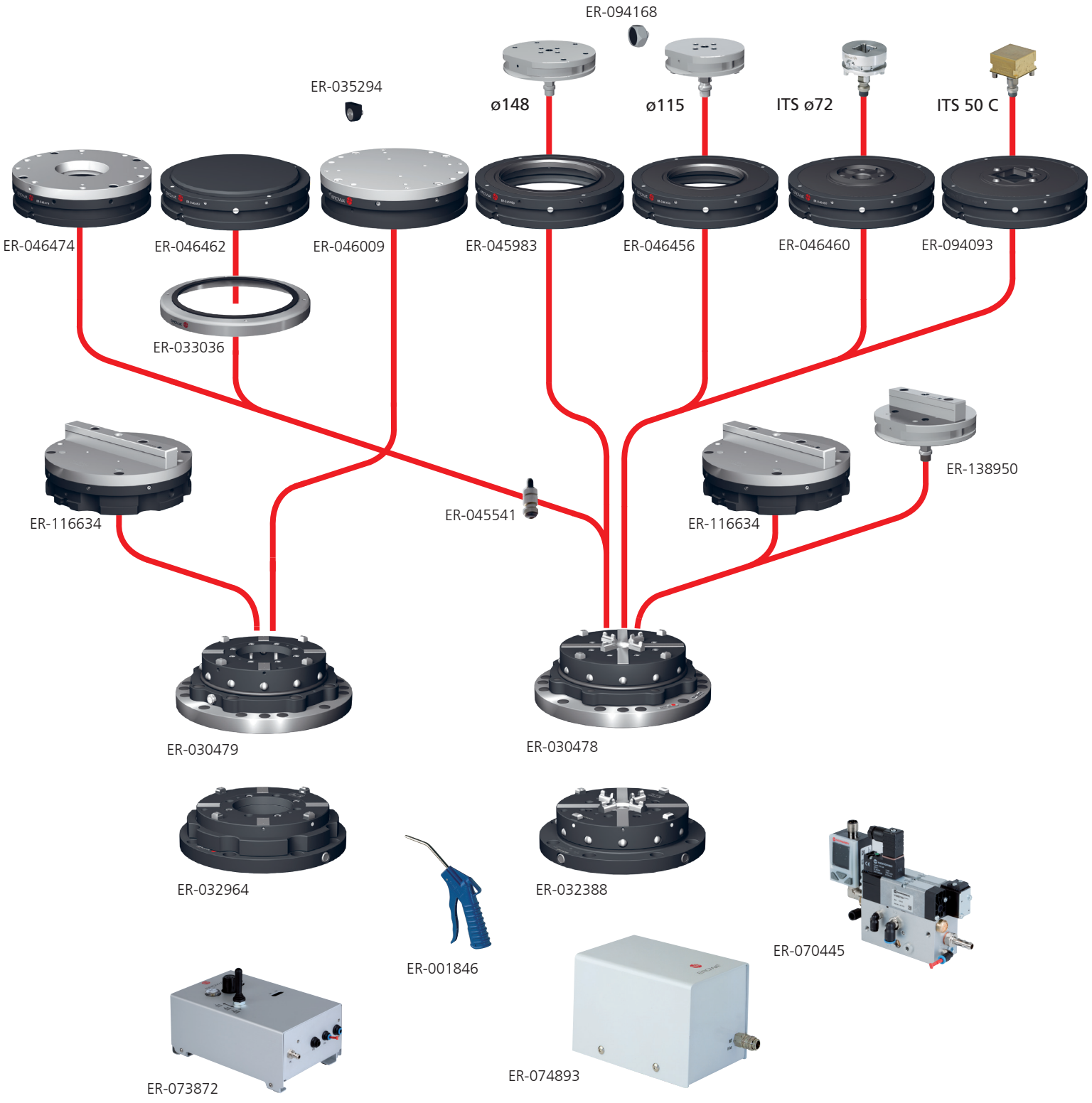
The far-off-center Z-supports even provide stable and precise support when the workpieces are larger.



Palletized fixtures in the robot magazine. The PC 210 pallets are the practical basis for the accommodation of workpieces, self-centering vises and fixtures.

EROWA ProductionChuck 210

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:


1. Manual operation


2. Operate with compressed air jet


3. Operate with manual valve


4. Operate with manual control unit



5. Operate with electro-pneumatic control unit


6. With central flushing clearance


7. Suited for submerged operation



8. Corrosion-resistant material



9. Suited for automatic operation


10. Handling with EROWA Robot gripper S


11. Handling with EROWA Robot gripper Combi


12. Handling with EROWA Robot gripper C



13. Handling with EROWA Robot gripper 72



14. Handling with EROWA Robot gripper 115



15. Handling with EROWA Robot gripper 148



16. Handling with EROWA Robot gripper RN PC 210


17. Handling with EROWA Robot gripper RCS


18. Handling with EROWA Robot gripper WGS-500



EROWA PRODUCTIONCHUCK 210

ProductionChuck 210	Chucks	118
ProductionChuck 210	Pallets	120
ProductionChuck 210	Operation	122
ProductionChuck 210	Auxiliary Equipment	123


For chip-removing processes


For EDM sinking


For WEDM

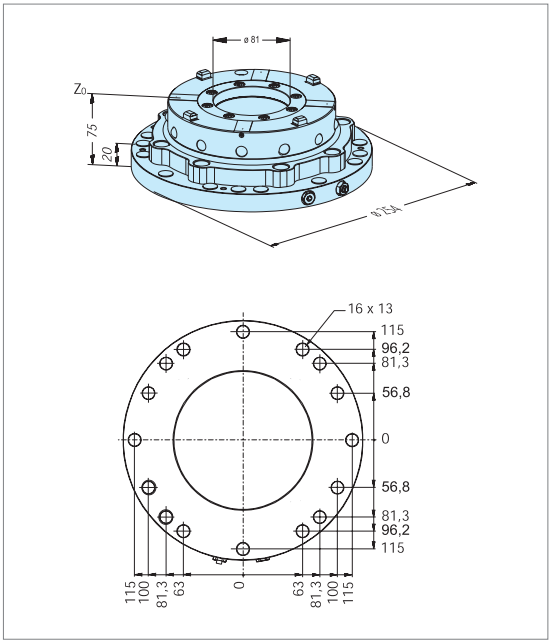
EROWA ProductionChuck 210

Chucks

Technical data	ProductionChuck 210
Repeatability	< 0.002 mm
Indexing	4 x 90°
Clamping power	20,000 N
Clamping power (central PowerChuck P)	9,000 N
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Max. permitted speed	4,500 min -1

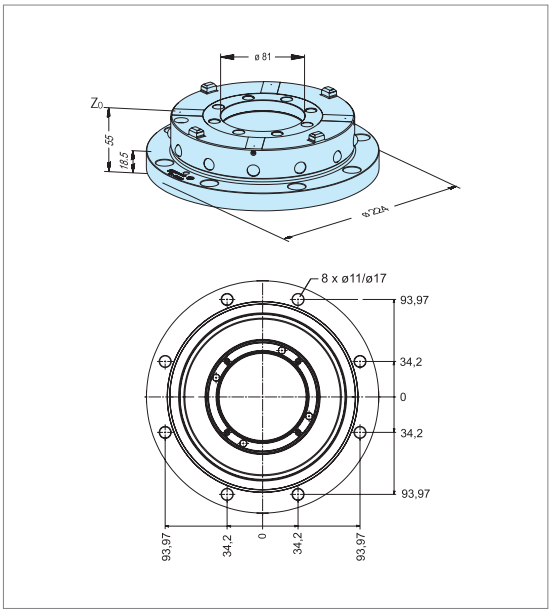
ER-030479 ProductionChuck 210

Version	Chuck for high machining forces in chip cutting. Low design. Through-borehole ø 81 mm.
Connections	Laterally or from below with two lines.
Operation	With air gun, laterally. With control unit, through the two connections laterally or from below.
Application	On milling machines, lathes and grinding machines. To clamp pallets PC 210.



ER-032964 ProductionChuck 210 without base plate

Version	Chuck for high machining forces in chip cutting. Low design. Through-borehole ø 81 mm.
Application	On milling machines, lathes and grinding machines. To clamp pallets PC 210.
Connections	2 air connections: on the sides and from below through customized base plate.
Operation	With air gun or control unit.
Note	Base plate must be customized.

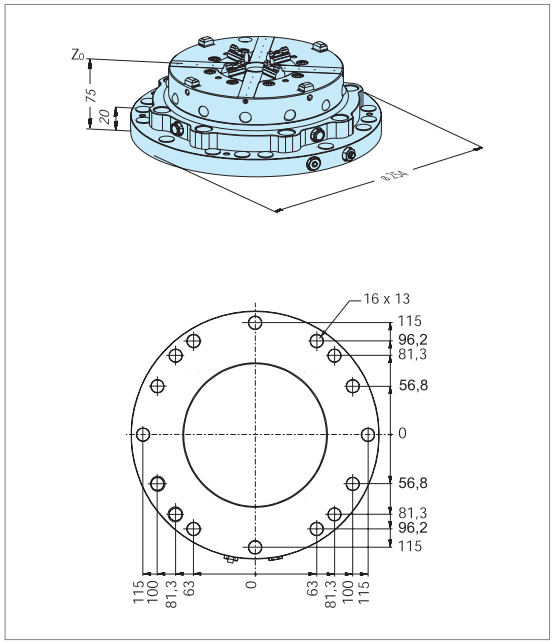


EROWA ProductionChuck 210

Chucks

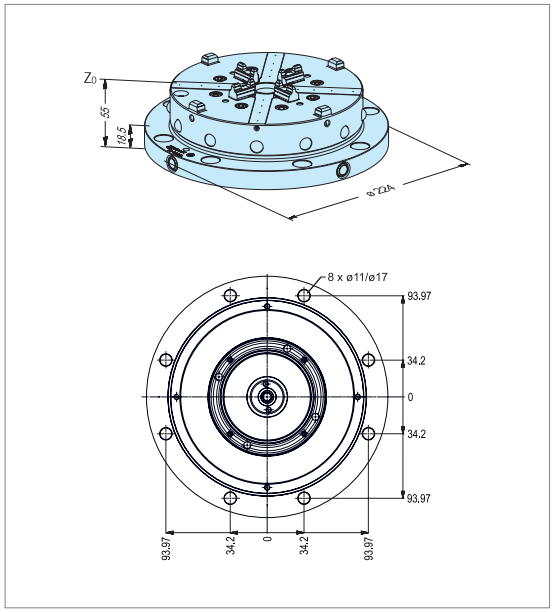
ER-030478 ProductionChuck 210 Combi

Version	Chuck for strong machining forces in chip-cutting operations. PC 210 with integrated PowerChuck P.
Connections	Laterally or from below with two lines.
Operation	With air gun, laterally. With control unit, through the two connections laterally or from below.
Application	On milling machines, lathes, grinding machines and EDM centers. To clamp pallets PC 210, pallets ø 148, ø 115, ITS 50 C holders and PM pallets.



ER-032388 ProductionChuck 210 Combi without base plate

Version	Chuck for high machining forces in chip cutting. System PC210 and ITS.
Application	On milling machines, lathes, grinding machines and EDM centers. To clamp pallets PC 210, pallets ø 148, ø 115, ITS 50 C holders and PM pallets.
Connections	2 air connections: on the sides and from below through customized base plate.
Operation	With air gun or control unit.
Note	Base plate must be customized.



EROWA ProductionChuck 210

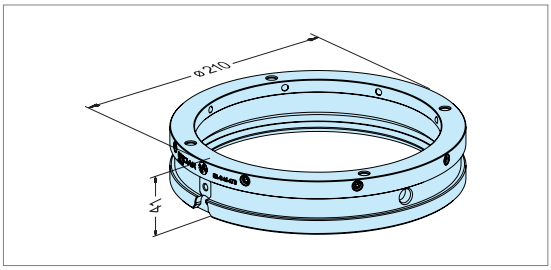
Pallets

ER-046473 Clamping ring RN PC 210





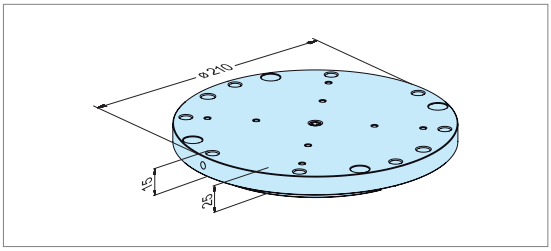
Version	Steel, hardened.
Application	Clamping ring for centering pallet PC 210 and centering pallet PC 210 / ø 81. Can be automated with gripper PC 210 RN (option).



ER-042865 PC Centering pallet 210



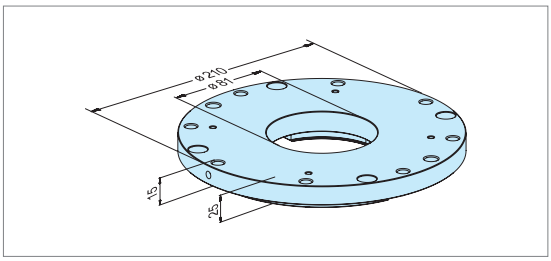
Version	Steel, without clamping ring (option ER-046473).
Fitting	8 x M10 attachment threads and two ø 10 boreholes.
Application	To accommodate workpieces, clamping jigs and plates PC 210.



ER-042866 PC Centering pallet 210 ø 81



Version	Steel, without clamping ring (option ER-046473).
Fitting	8 x M10 attachment threads and two ø 10 boreholes.
Application	To accommodate workpieces, clamping jigs and plates PC 210.

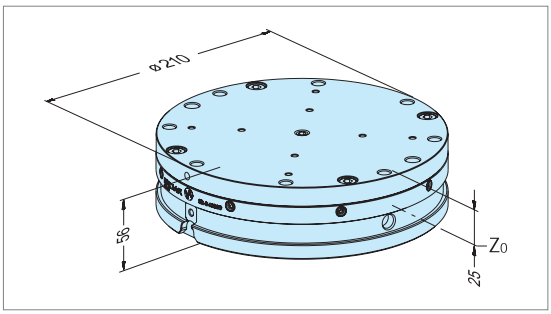


ER-046009 Pallet RN PC 210





Version	Steel. Centering segments integrated.
Assembly	8 x M10 attachment threads and two ø 10 boreholes.
Application	To clamp workpieces, clamping jigs and pallets PC 210. Can be automated with gripper RN PC 210 (option).

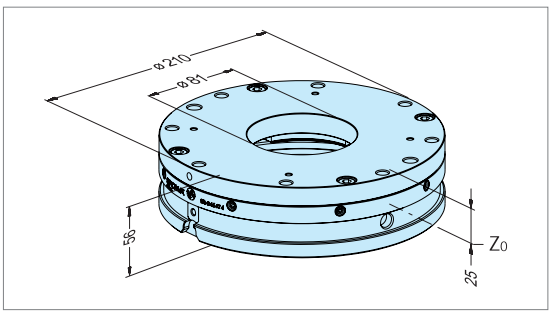


ER-046474 Pallet RN PC 210 ø 81



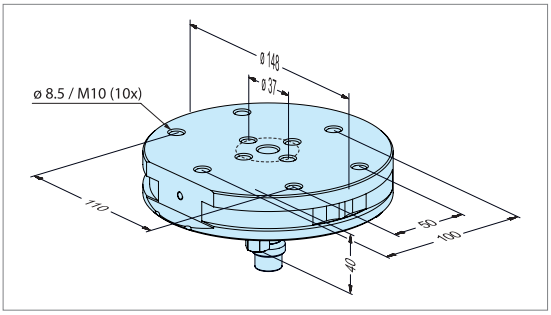


Version	Steel. Centering segments integrated. Through borehole ø 81 mm.
Fitting	8 x M10 attachment threads and two ø 10 boreholes.
Application	To accommodate workpieces, clamping jigs and plates PC 210. Can be automated with gripper RN PC 210 (Option).



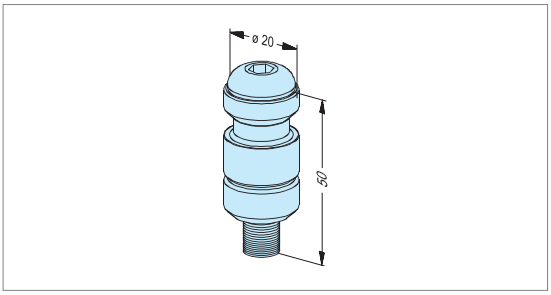
ER-115521 Pallet ø 148 P

Version	Steel, rust-resistant. Centering integrated in the pallet. With optimized center of mass.
Application	To accommodate workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.
Please note	Compatible with EROWA ProductionChuck 210 Combi.



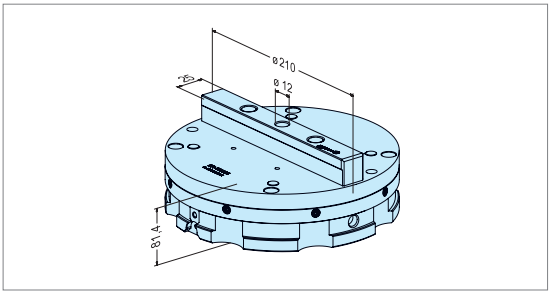
ER-045541 Chucking spigot for PC 210

Version	Fixed type, manual. 1 spigot.
Application	In pallets PC 210 for chip-cutting machining processes.



ER-116634 Alignment pallet RN PC 210

Version	Pallet PC 210 with ground alignment rail and four Z-measuring surfaces.
Application	Alignment of the angle position and determination of the Z-values of PC 210 chucks.



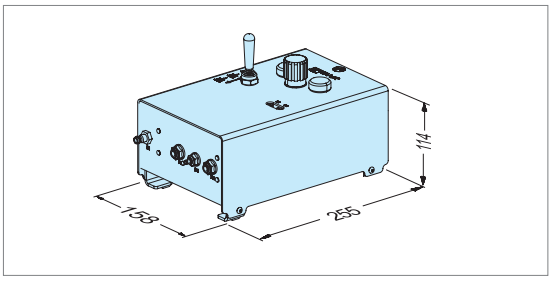
Please note: Further pallets and electrode holders for the ProductionChuck 210 Combi can be found from pages 198.

EROWA ProductionChuck 210

Operation

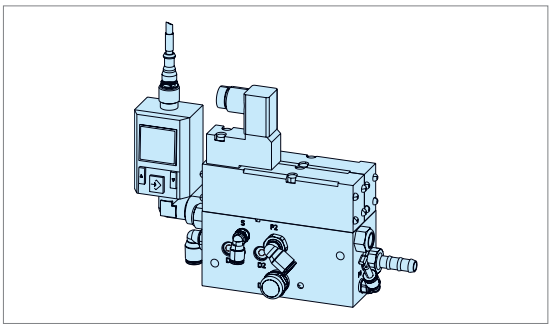
ER-073872 Manual control unit with booster

Version	Manual valve to control the EROWA chucks: Opening/Reclamping/Cleaning.
Application	Operation of: EROWA ITS Compact Combi Chuck, ITS, UPC, MTS, PC 210 chucks and PowerChuck P.
Note	Integrated booster with load ratio 1:2 (up to output pressure of 10 bar max.).



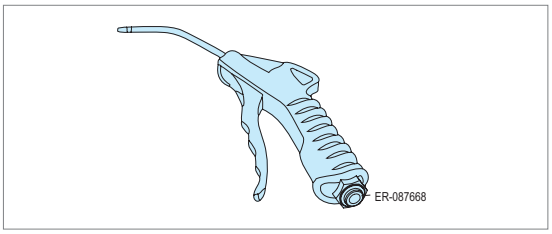
ER-070445 Control unit with monitoring

Version	Electropneumatic valve. Outputs for chucks: opening/cleaning/reclamping. 24 V, incl. mounting accessories and 3m connection hose.
Application	Operation and monitoring of machine-integrated chucks, for instance through the CNC M-function.



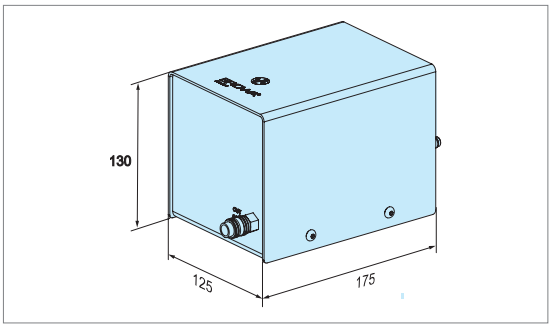
ER-001846 Air jet

Version	Plastic, smooth regulation of air flow, connection 1/4'', inside thread.
Application	Operation of manual chucks.
Note	Not suitable for operating MTS+ and MTS81.
Option	Volume and pressure reduction to air jet (ER-087668). Pressure build up is reduced if Air Jet is not pushed against an air valve.



ER-074893 Pressure booster

Version	Quick-connect couplings for hose ø i = 8mm. Compression ratio: 1:2
Application	On insufficient system pressure and on pressure fluctuations.
Installation	Integrate in air circuit near application.



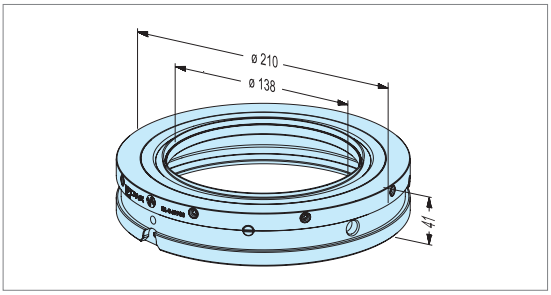
EROWA ProductionChuck 210

Auxiliary Equipment

ER-045983 Sealing ring holder RN ø 148 PC 210

auto 210

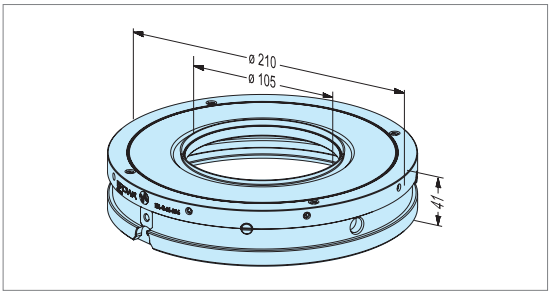
Version: Aluminium anodized.
Application: Prevents penetration of chips and dirt into the Production-Chuck 210 by application of EROWA pallets ø 148. For automatic handling with gripper RN PC 210 (option).



ER-046456 Sealing ring holder RN ø 115 PC 210

auto 210

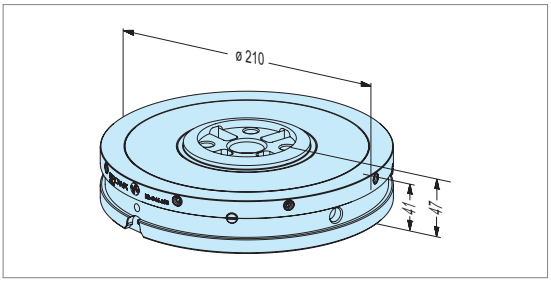
Version: Aluminium anodized.
Application: Prevents penetration of chips and dirt into the Production-Chuck 210 by application of EROWA pallets ø 115. For automatic handling with gripper RN PC 210 (option).



ER-046460 Sealing ring holder RN ø 72 PC 210

auto 210

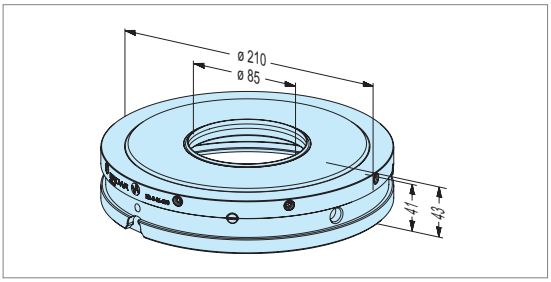
Version: Aluminium anodized.
Application: Prevents penetration of chips and dirt into the Production-Chuck 210 Combi by application of EROWA ITS holders ø 72. For automatic handling with gripper RN PC 210 (option).



ER-046458 Sealing ring holder RN ø 85 PC 210

auto 210

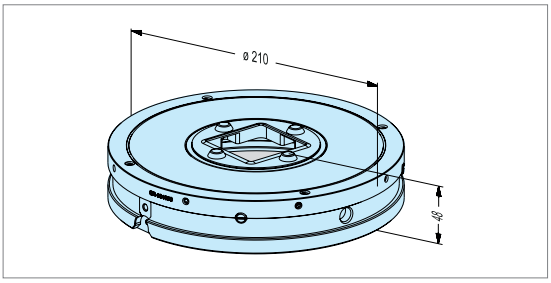
Version: Aluminium anodized.
Application: Prevents penetration of chips and dirt into the Production-Chuck 210 Combi by application of EROWA ITS pallets ø 85. For automatic handling with gripper RN PC 210 (option).



ER-094093 Sealing ring ITS 50 C for PC 210

auto 210

Version: Aluminium anodized.
Application: Prevents penetration of chips and dirt into the ProductionChuck 210 Combi by application of EROWA electrode holders C. For automatic handling with gripper RN PC 210 (option).



EROWA ProductionChuck 210

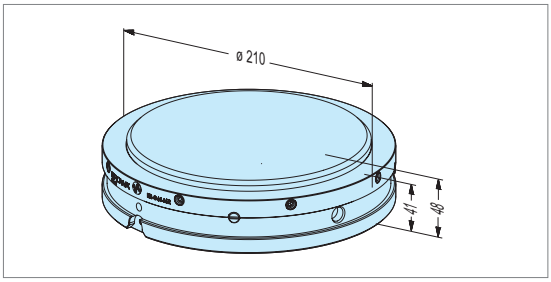
Auxiliary Equipment

ER-046462 Cover RN PC 210

auto 210

Version Aluminium anodized.

Application Prevents penetration of chips and dirt into the Production-Chuck 210 Combi. For automatic handling with gripper RN PC 210 (option).

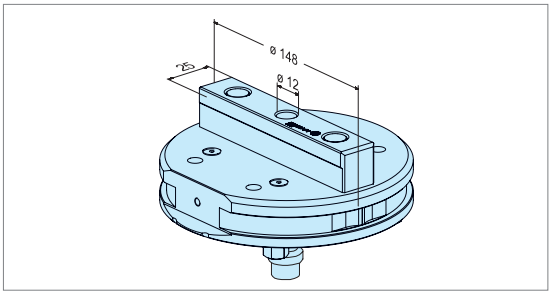


ER-138950 Alignment pallet ø 148 P

INOX auto 148

Version Pallet P ø 148 with ground alignment rail and four Z-measuring surfaces, including chucking spigot F/M Production.

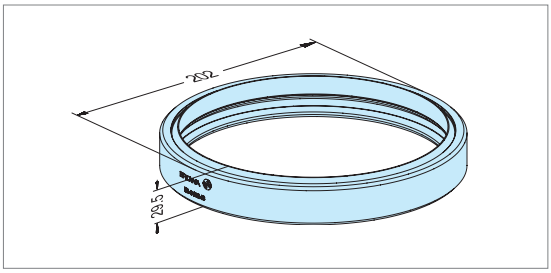
Application Alignment of the angle position and determination of the Z-values of ITS Chucks 100 P, PowerChucks P and PC 210 Combi chucks.



ER-045243 PC 210 Sealing ring

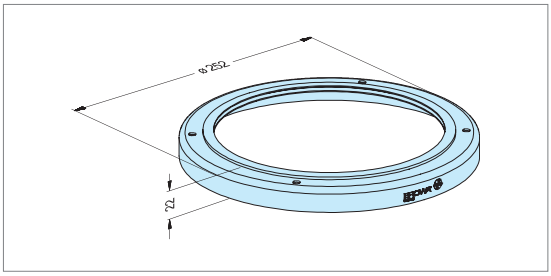
Version Holder with wiper.

Application For use on ProductonChuck 210 Combi.
To seal the outer balls if ITS 50 standard electrode holders or other workpiece carriers without PC sealing ring holders PC 210 are used.



ER-033036 Covering ring PC 210

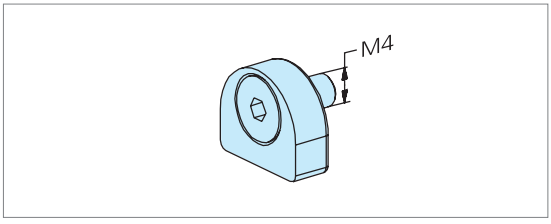
Application Covering ring for the attachment bolts of the PC 210: ER-030479, ER-030478 (Recommended for application on lathes).



ER-035294 EWIS™ Rapid chip with chip holder RCS with chip ø 3 x 13.5 mm

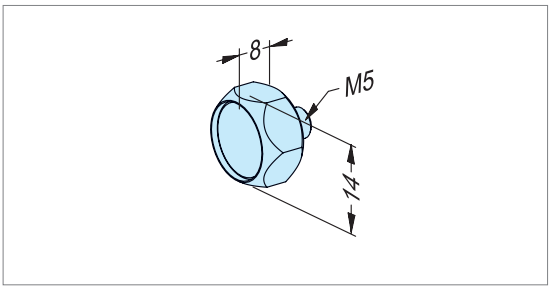
Version Holder with built-in data carrier. EWIS chip: read only.

Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.



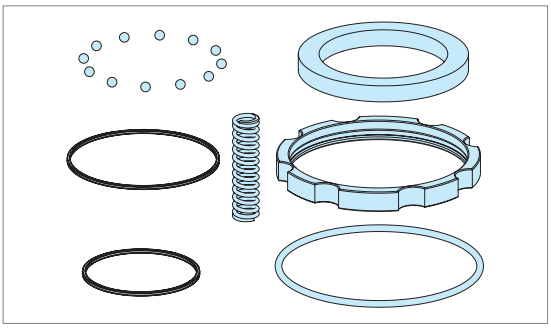
ER-094168 EWIS™ rapid chip with holder SW14 Length 8 mm (grey)

Version	Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application	In any EROWA electrode holder and pallet which has been prepared for it.



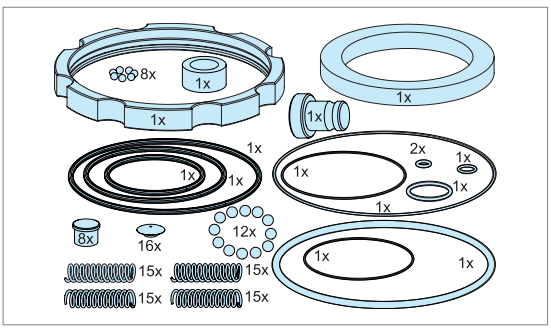
ER-119717 Repair kit ProductionChuck 210 for 030479 / 032964

Version	All wear parts for chucks ProductionChuck 210 ER-030479 and ER-032964.
Application	Remove PC 210 chuck according to supplied instructions, replace parts.
Notice	Each chuck is supplied with an operating manual. Please keep it in a safe place.



ER-126696 Repair kit ProductionChuck 210 Combi for 030478 / 032388

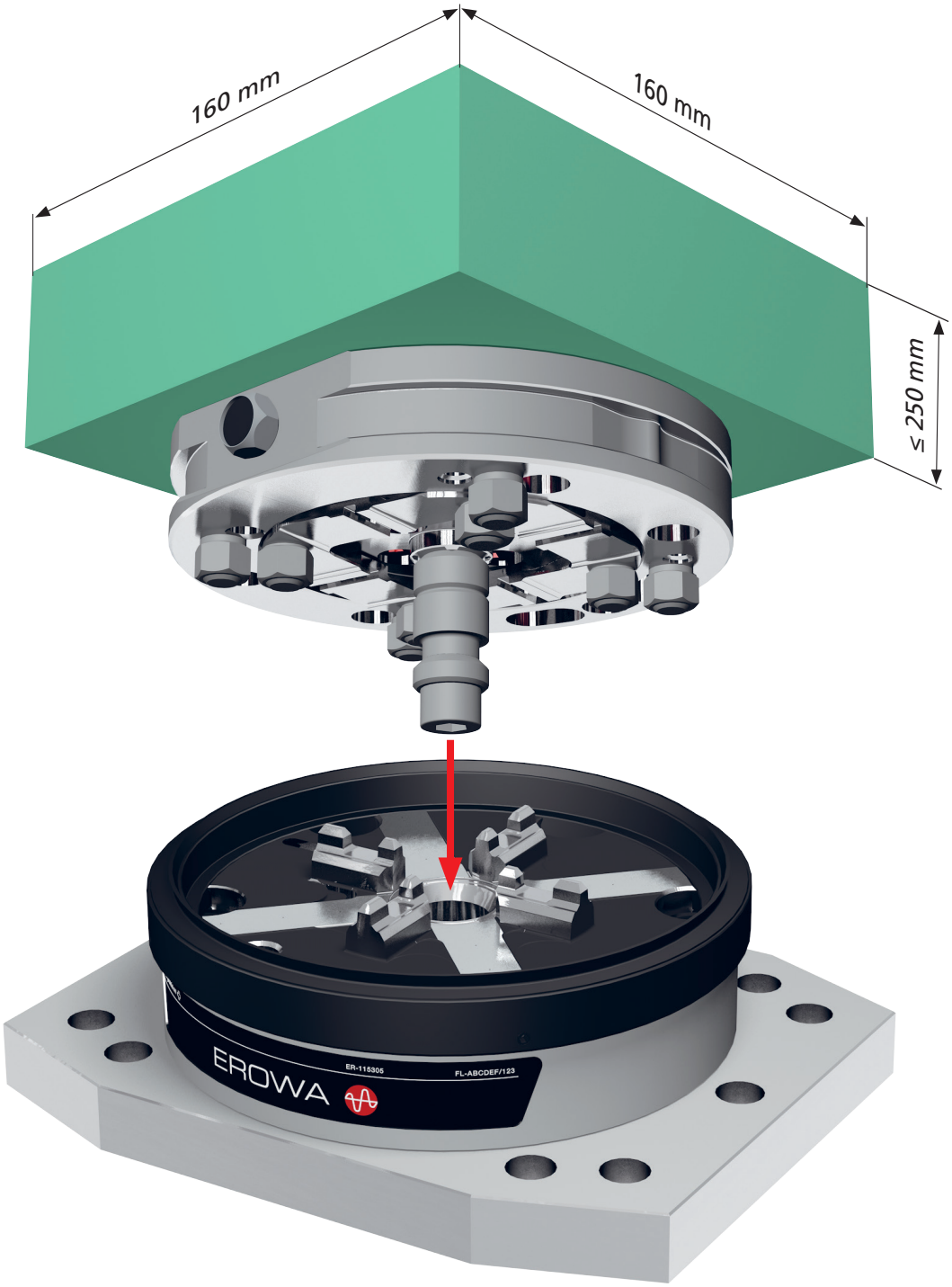
Version	All wearing parts for the ProductionChucks 210 Combi ER-030479 and ER-032964.
Application	Dismantle ProductionChuck 210 Combi according to instructions, replace parts.
Please note	Each chuck is supplied with an instruction manual. Please keep it in a safe place.



EROWA PowerChuck P

The flexible interface

EROWA PowerChucks P constitute a flexible and precise interface between machine and workpiece. The chucks can be integrated easily and quickly on a wide variety of machining centers.

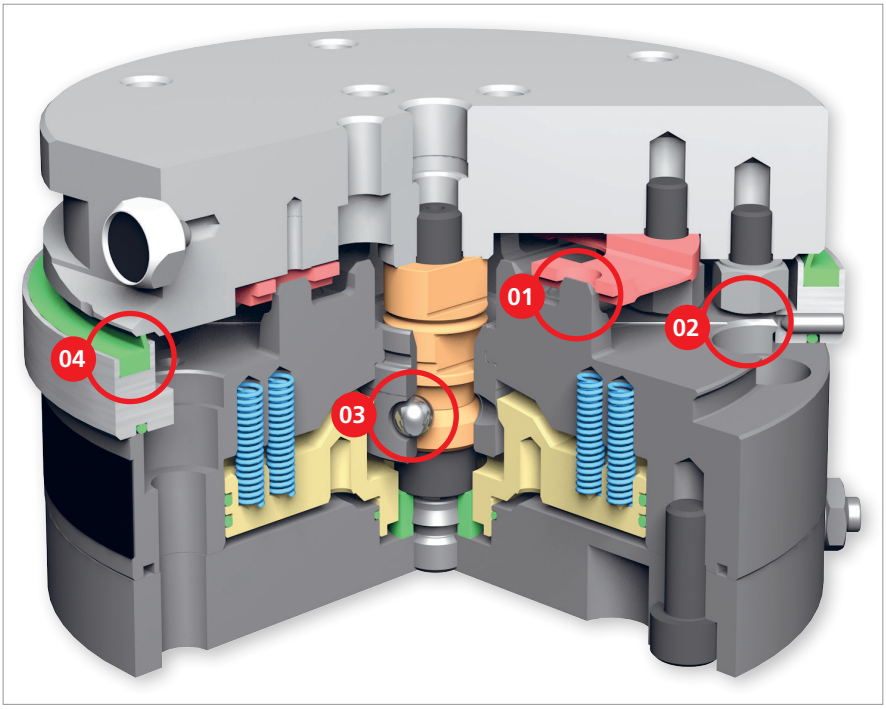


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Centering 3 in 1
The PowerChuck P is equipped with three different centering profiles, which means that a wide variety of EROWA workpiece carriers can be clamped with the highest degree of precision and positional orientation.

02 | Cleaning
During the clamping process the support surfaces of the supporting feet are cleaned with compressed air.

03 | Power pack
The self-locking ball-lock with the low-maintenance ceramic balls generates a clamping power of 10,000 N. The clamping power will persist even when the pressure has dropped.

04 | 100% tight
Various sealing rings prevent chips and coolant from penetrating into the chuck.

Technical data - PowerChuck P

	PowerChuck P
For pallet sizes	ITS 50, PM 85, ø 115 mm, ø 148 mm
Chuck dimensions	H = 33 mm x ø 156 mm, H = 51 mm x ø 156 mm
System height (chuck and pallet)	73 mm / 91 mm
Recommended workpiece sizes	up to 160 x 160 x 250 mm
Repeatability	< 0.002 mm
Indexing	4 x 90°
Clamping force	10,000 N
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Operation	with control unit or compressed-air gun

EROWA PowerChuck P in operation

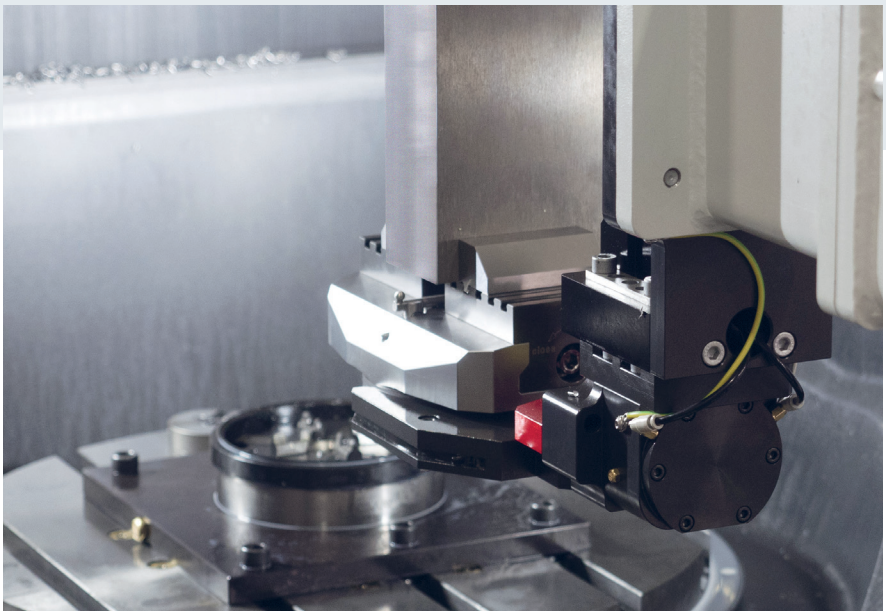
For milling, drilling, grinding or turning

The PowerChuck P is flexible and universally applicable, no matter whether on milling or drilling machines, on profile or surface grinding machines or on the spindles of dividing heads and lathes. Besides manual operation, the tooling system is also optimally prepared for automation.

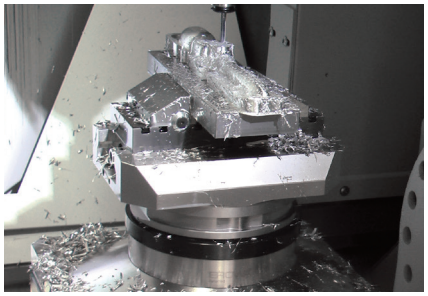
FACTS

- High degree of clamping power
- Repeatability < 0.002 mm
- Z-support surfaces cleaned by air
- Ceramic balls
- Reliably sealed
- A wide variety of accessories
- Can be automated





The PowerChuck P palletizing system can be automated. EROWA provides a suitable handling facility for every field of application and for all technologies. Sealing rings protect the chucks and guarantee a safe automatic loading/unloading process.



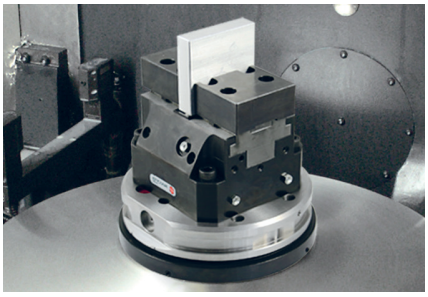
The compact design and low profile height of the tooling systems provide a great deal of space for workpiece and machining processes.



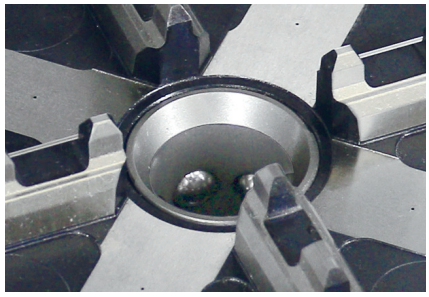
The base plate of the PowerChuck P has a variously usable mounting hole configuration, thus offering many mounting options.



Workpiece carriers can be clamped into the chuck with a repeatability of 0.002 mm within a few seconds.



Simply practical – with the PowerChuck P model with an air duct, fixtures are pneumatically operated through the pallet and the chuck.



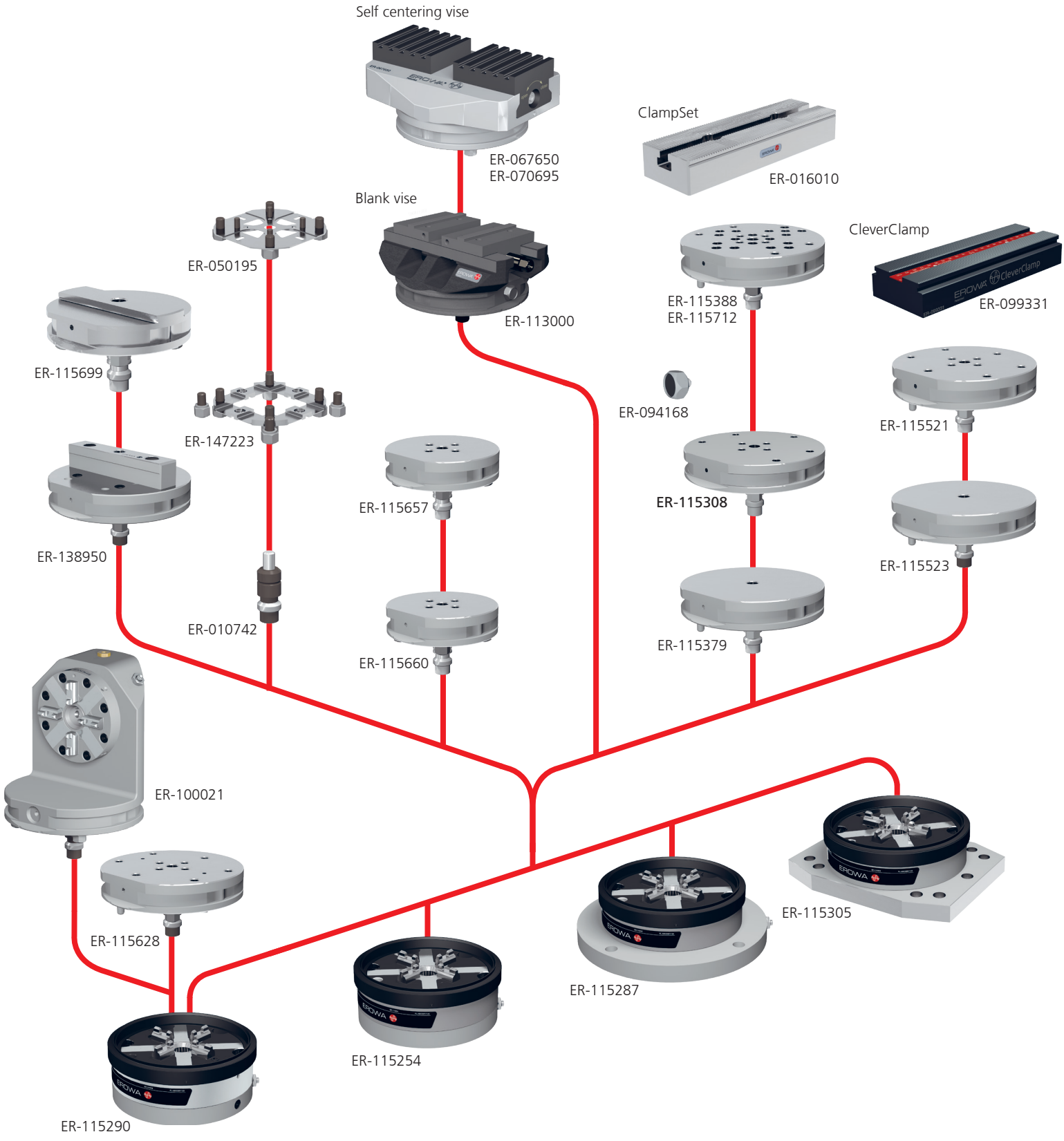
The extremely low-wear ceramic balls in the lock guarantee a constant and low-maintenance performance for an even longer period of time.



The new ø 148 pallet has an optimized center of mass for the best concentricity properties in lathe applications.

EROWA PowerChuck P

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA POWERCHUCK P

PowerChuck P	Chucks	132
PowerChuck P	Pallets	135
PowerChuck P	Measuring equipment	140
PowerChuck P	Sealing rings	141
PowerChuck P	Operation	144
PowerChuck P	Accessories	145

For chip-removing processes

For EDM sinking

For WEDM

EROWA PowerChuck P

Chucks

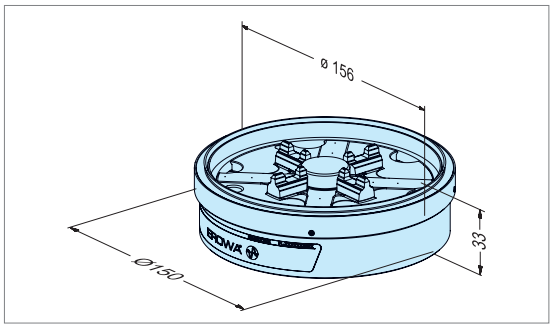
Technical data	PowerChuck P
Repeatability	< 0.002 mm
Pallet indexation	4 x 90°
Clamping power	10,000 N
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)

ER-115800 PowerChuck P without base plate



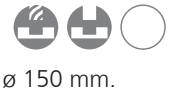


Version	Extra flat design. Height 33 mm. Without base plate.
Connections	At the rear through the interface to be created according to instructions.
Operation	Pneumatically.

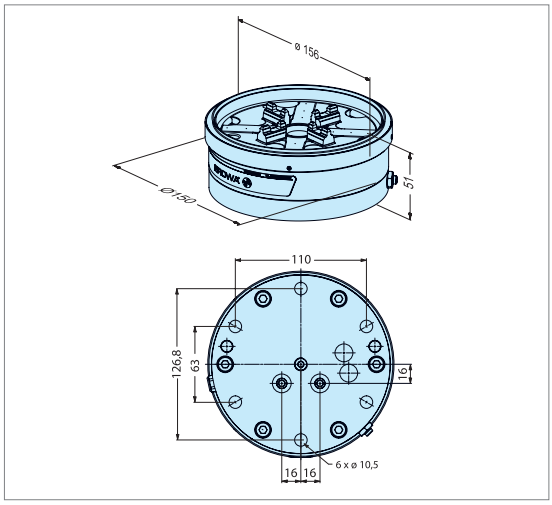


ER-115254 PowerChuck P ø 150



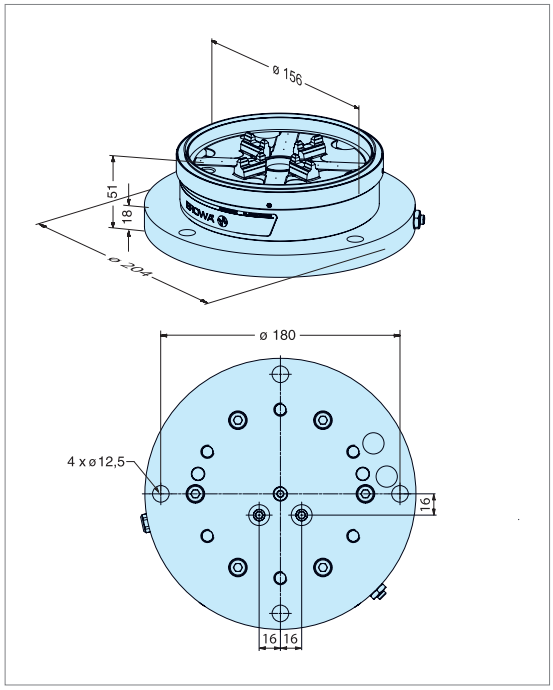


Version	Extra flat design. Height 51 mm. Base plate ø 150 mm.
Connections	Laterally or at the rear with two tubes.
Operation	With air gun: laterally. With control unit: through two connections laterally or at the rear.



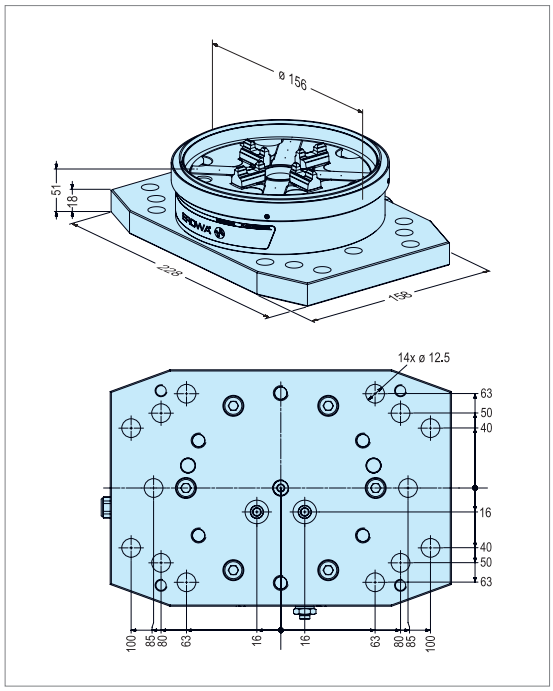
ER-115287 PowerChuck P ø 204

Version	Extra flat design. Height 51 mm Base plate ø204mm.
Connections	Laterally or at the rear with two tubes.
Operation	With air gun: laterally. With control unit: through the two connections laterally or at the rear.



ER-115305 PowerChuck P 158 x 228

Version	Extra flat design. Height 51 mm. Base plate 158x228 mm.
Connections	Laterally or at the rear with two tubes.
Operation	With air gun: laterally. With control unit: through the two connections laterally or at the rear.

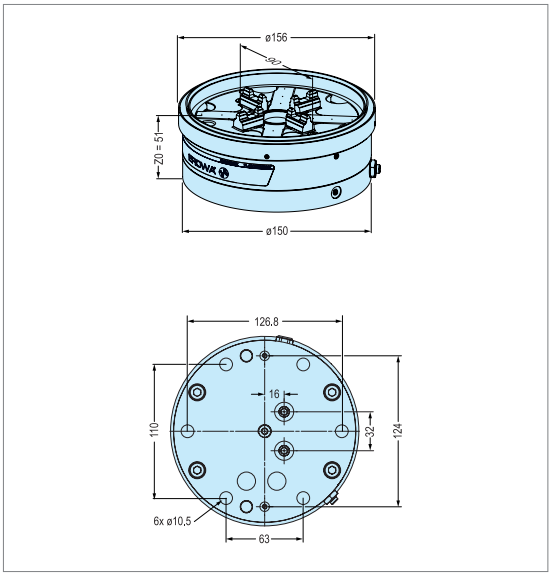


EROWA PowerChuck P

Chucks

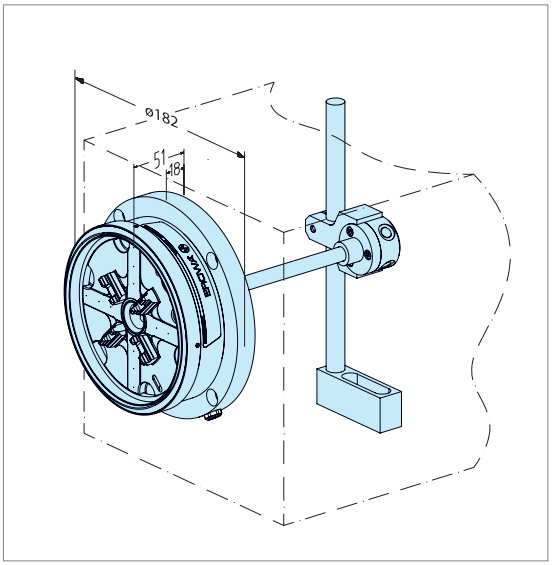
ER-115290 PowerChuck P ø 150 with 2 air ducts

Version	PowerChuck P with 2 air ducts. Extra flat design. Height 51 mm. Base plate ø 150 mm.
Connections	Laterally or at the rear with four tubes.
Operation	With air gun: laterally. With control unit: through the two connections laterally or at the rear.
Please note	The air ducts must only be used for compressed air.



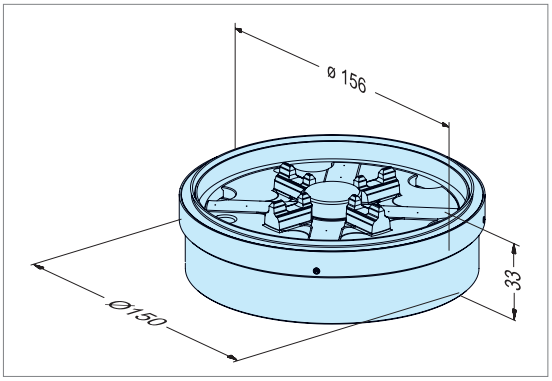
ER-115067 PowerChuck P ø 182 with rotatable feedthrough 2-fold

Version	PowerChuck P with rotatable feedthrough (max. 50rpm). Extra flat design. Height 51 mm. Base plate ø 182 mm. Mounting holes on reference circle ø166mm.
Connections	2 tubes on the rotatable connection.
Operation	With control unit manually and automatically.
Application	On dividing heads and round tables.



ER-136056 PowerChuck P without base plate for mounting in machine table

Version	Extra flat design. Height 33 mm. Without base plate. Casing without lateral label.
Connections	At the rear through the interface according to instructions.
Operation	Pneumatically.
Applications	To be fitted to the machine if the outside diameter of the chuck has to be sealed.



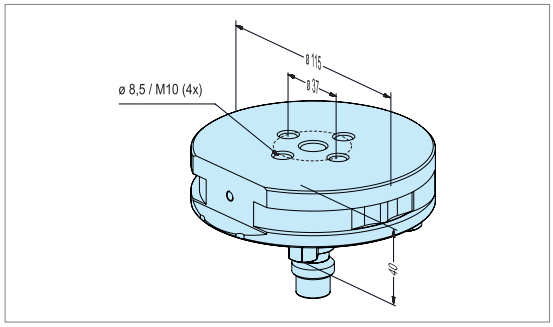
EROWA PowerChuck P

Pallets

ER-115657 Pallet ø 115 MS



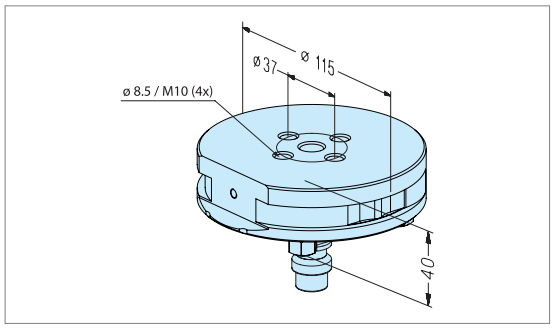
Version	Steel, rust-resistant. With centering plate 100 (punched).
Application	To accommodate electrodes, workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



ER-115660 Pallet ø 115 G



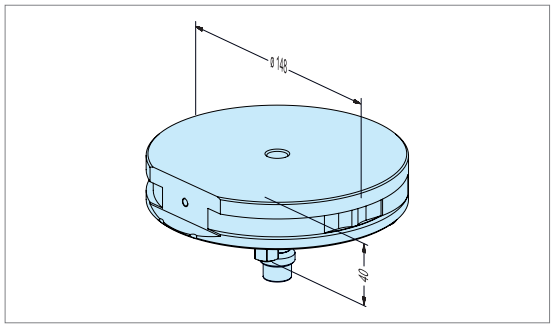
Version	Steel, rust-resistant. With centering plate G (ground).
Application	To accommodate electrodes, workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



ER-115379 Pallet ø 148 G blank



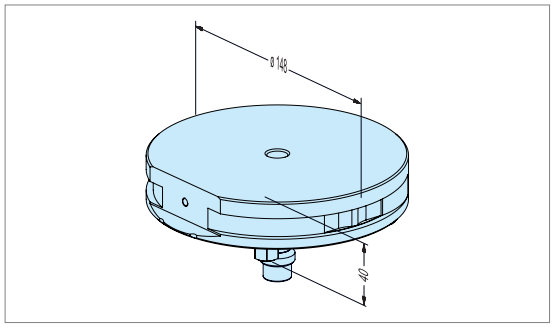
Version	Steel, rust-resistant. Without mounting hole pattern. With centering plate G (ground). With optimized center of mass.
Application	To accommodate electrodes, workpieces and fixtures for chip-cutting production.
Fitting a blank	In any suitable manner.



ER-133250 Pallet ø 148 G blank ALU



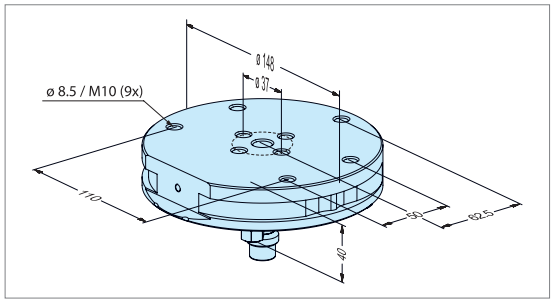
Version	Aluminum pallet without mounting hole pattern. With centering plate G (ground). With optimized center of mass.
Application	To accommodate workpieces and fixtures for chipcutting production.
Fitting a blank	In any suitable manner.



ER-115308 Pallet ø 148 G



Version	Steel, rust-resistant. With centering plate G (ground). With optimized center of mass.
Application	To accommodate electrodes, workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



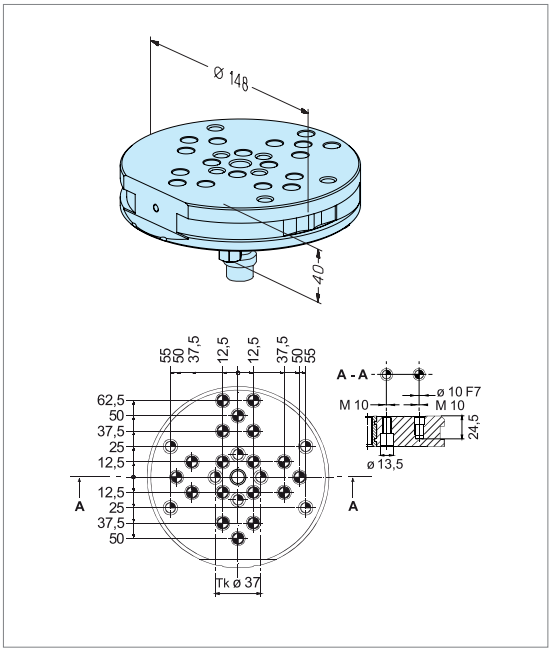
EROWA PowerChuck P

Pallets

ER-115388 Pallet ø 148 G R25



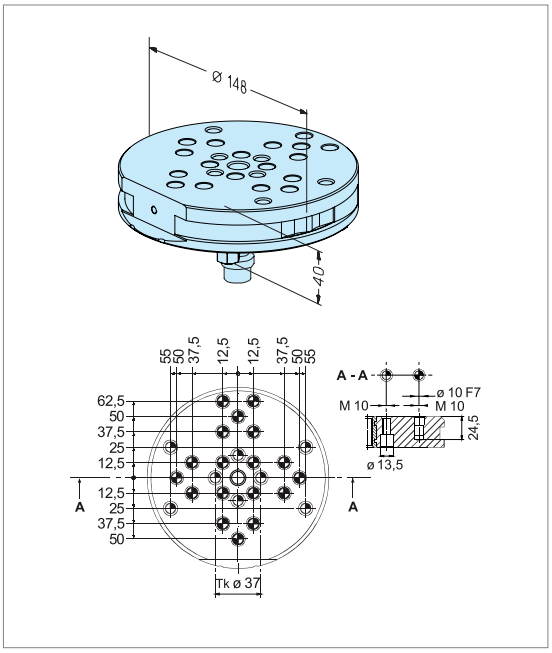
Version	Steel pallet with hole pattern 25, ø10F7 and M10 thread. With centering plate G (ground). With optimized center of mass.
Application	To accommodate workpieces and electrodes. Construction of fixtures and ClampSet Base 220.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



ER-115712 Pallet ø 148 G R25 ALU



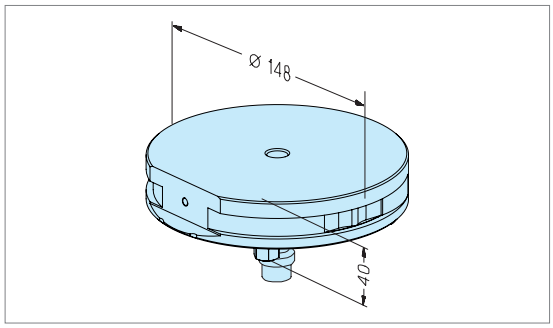
Version	Aluminum pallet with hole pattern 25, ø10F7, M10 thread. With centering plate G (ground). With optimized center of mass.
Application	To accommodate workpieces and electrodes. Construction of fixtures and ClampSet Base 220.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



ER-115523 Pallet ø 148 P blank



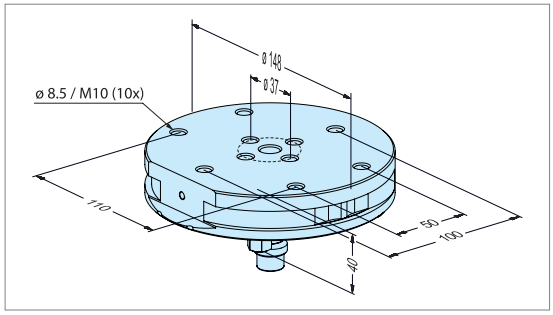
Version	Steel, rust-resistant. Without mounting hole pattern. Centering integrated in the pallet. With optimized center of mass.
Application	To accommodate workpiece and fixtures for chip-cutting production.
Fitting a blank	In any suitable manner.
Please note	Compatible with EROWA ProductionChuck 210 Combi.



ER-115521 Pallet ø 148 P



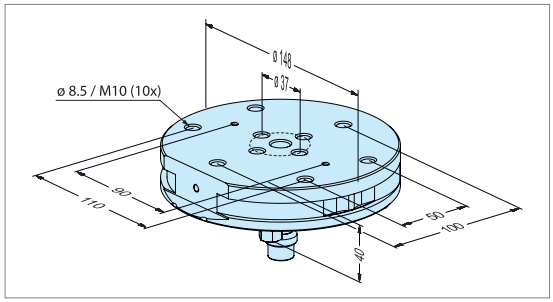
Version	Steel, rust-resistant. Centering integrated in the pallet. With optimized center of mass.
Application	To accommodate workpieces and fixtures for chip-cutting production.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.
Please note	Compatible with EROWA ProductionChuck 210 Combi.



ER-115628 Pallet ø 148 P with 2 air ducts



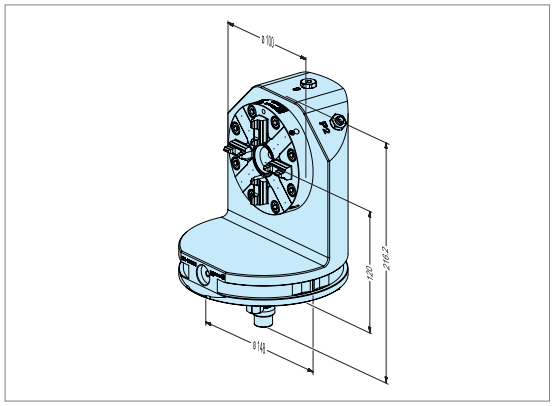
Version	Steel, rust-resistant. With two air ducts. Centering integrated in the pallet. With optimized center of mass.
Application	For use on the EROWA PowerChuck P with two air ducts. To accommodate pneumatically operated tooling systems and fixtures.
Fitting a blank	Through the pallet with M8 bolts or through the blank with M10 bolts.



ER-100021 ITS Chuck 100 P on angle pallet ø 148 P



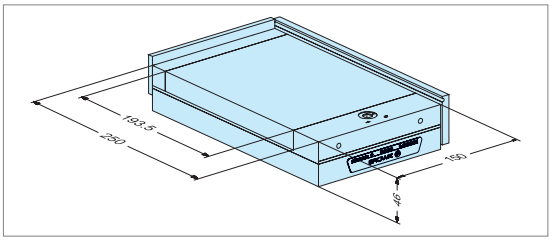
Version	Stainless steel. Centering integrated in pallet. With two nipples (ER-087788) for the air duct.
Clamping power	ITS chuck 100 P: 5,000N
Connections	On the side and at the rear with two lines.
Operation	With control unit or with compressed-air pistol.
Application	Chuck adaptation with a 90° angle. Ideal with the PowerChuck P ø150 with 2 air ducts (ER-115290).
Please note	To accommodate electrode holders and ø115, 148, PM56, PM60 and PM85 Precise pallets.



EROWA PowerChuck P

Pallets

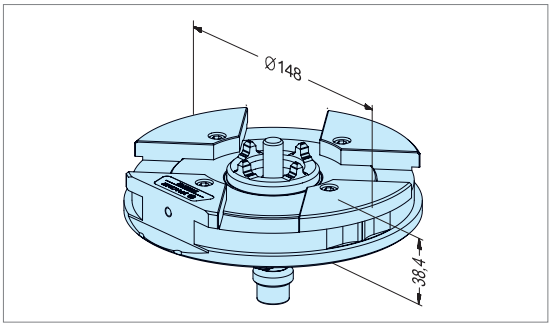
ER-090744	Magnetic clamping plate Neospark 250 x 150 x 46



Version	Magnetic clamping plate made of steel, with two lateral stop bars. Clamping power of the magnet: 100N/cm2. Prepared with 4xM8 boreholes to be fitted to pallet ø148.
Application	Clamping workpieces magnetically for surface and profile grinding, EDM and high-frequency milling. Recommended minimum workpiece size: 4x4xmm.

ER-022250	Adapter pallet ITS 50 / ø 148

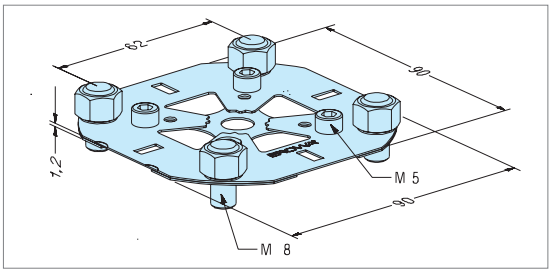
INOX auto 148



Version	ITS system size 100. Lock with central M10 locking bolt.
Application	To accommodate ITS Electrode holders system 50. Lock with central M10 locking bolt. For automatic handling.

ER-050195	Centering plate 100 M8 1 unit
ER-011599	Centering plate 100 M8 10 pieces

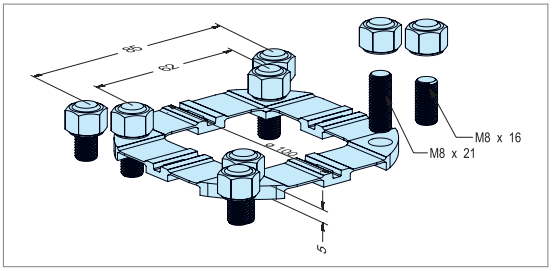
INOX



Version	Corrosion-resistant, including 4 supporting feet M8 and 4 x M5 screws per plate.
Application	Workpieces and electrodes.
Mounting	Mounted directly on plane surface of blank.

ER-147223	Centering plate G, 1 pieces with supporting feet 10.2 mm
ER-153058	Centering plate G, 5 pieces with supporting feet 10.2 mm

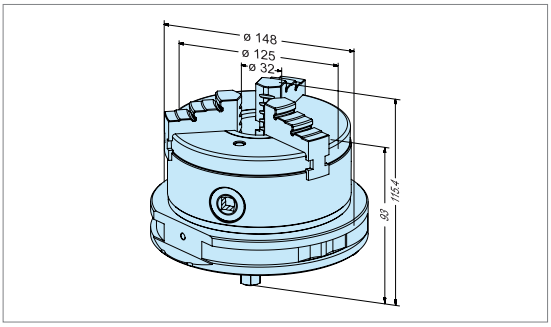
INOX



Version	Centering plate G (ground), rust-resistant, including 8 supporting feet SW13, height 10.2 mm.
Application	For workpieces, fixtures and gauges in chip-cutting production.
Please note	Can also be used to repair new pallet types ø 148 G, for instance ER-115308, ER-115379, ER-115388, etc.
To fit a blank	According to the fitting instructions supplied.

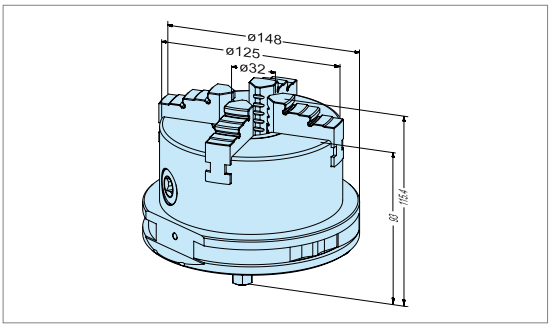
ER-068585 Manual 3-jaw concentric chuck ø 125 mm on pallet ø 148 G

Version	Manual 3-jaw concentric chuck ø 125 mm. Central clamping range 3-53mm. Body made of cast metal. High degree of concentricity according to DIN 6386. Fitted to pallet ø 148 G. Includes 3 hardened drilling jaws (stepped on the outside), 3 hardened turning jaws (stepped on the inside) 1 spanner.
Note	Max. speed 4000 min-¹.
Application	In combination with EROWA chucks on lathes, indexing tables, dividing heads, etc.
Spare parts	Block jaws, soft, for 3-jaw chuck, set of 3, size 125 mm.



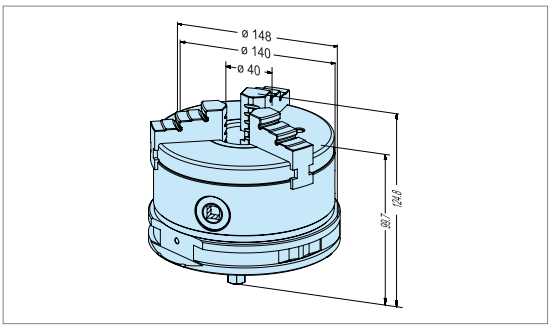
ER-068586 Manual 4-jaw concentric chuck ø 125 mm on pallet ø 148 G

Version	Manual 4-jaw concentric chuck ø 125 mm. Central clamping range 3-53mm. Body made of cast metal. High degree of concentricity according to DIN 6386. Fitted to pallet ø 148 G. Includes 4 hardened drilling jaws (stepped on the outside), 4 hardened turning jaws (stepped on the inside), 1 spanner.
Note	Max. speed 4000 min-¹.
Application	In combination with EROWA chucks on lathes, indexing tables, dividing heads, etc.
Spare parts	Block jaws, soft, for 4-jaw chuck, set of 4, size 125 mm.



ER-068697 Manual 3-jaw concentric chuck ø 140 mm on pallet ø 148 G

Version	Manual 3-jaw concentric chuck ø 140mm. Central clamping range 3-53 mm. Body made of cast metal. High degree of concentricity according to DIN 6386. Fitted to pallet ø 148 G. Includes 3 hardened drilling jaws (stepped on the outside), 3 hardened turning jaws (stepped on the inside) 1 spanner.
Note	Max. speed 4000 min-¹.
Application	In combination with EROWA chucks on lathes, indexing tables, dividing heads, etc.
Spare parts	Block jaws, soft, for 3-jaw chuck, set of 3, size 140 mm.



EROWA PowerChuck P

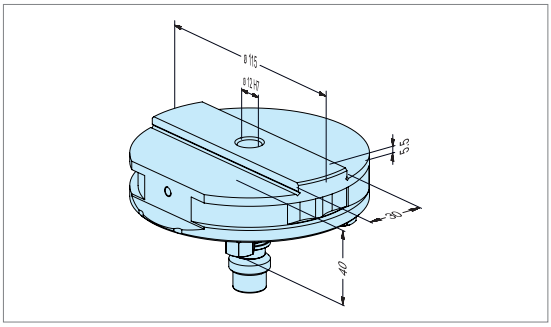
Measuring equipment

ER-115699 Alignment pallet ø 115 MS





Version	Pallet ø 115 mm, alignment length 110 mm, center bore-hole ø 12 mm.
Application	Alignment of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.

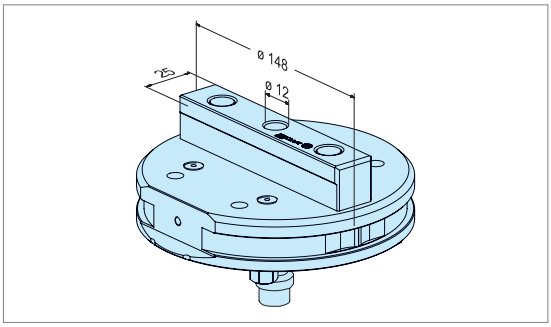


ER-138950 Alignment pallet ø 148 P





Version	Pallet P ø 148 with ground alignment rail and four Z-measuring surfaces, including chucking spigot F/M Production.
Application	Alignment of the angle position and determination of the Z-values of ITS Chucks 100 P, PowerChucks P and PC 210 Combi chucks.

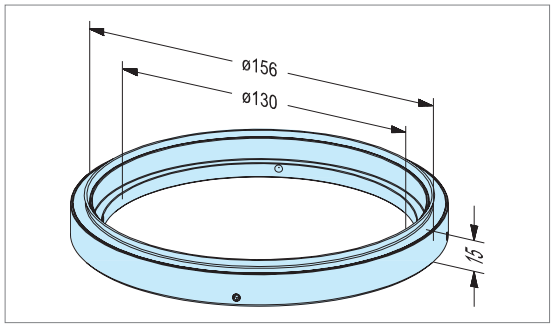


EROWA PowerChuck P

Sealing rings

ER-115722 Sealing ring PowerChuck P / ø 148 manual

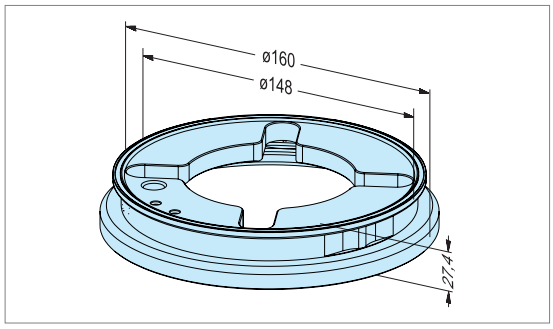
Version Aluminum, anodized.
Application Prevents the penetration of dirt and chips into the Power-Chuck P in combination with EROWA pallets ø 148.



ER-054219 Sealing ring PC P for pallet ø148 automatic

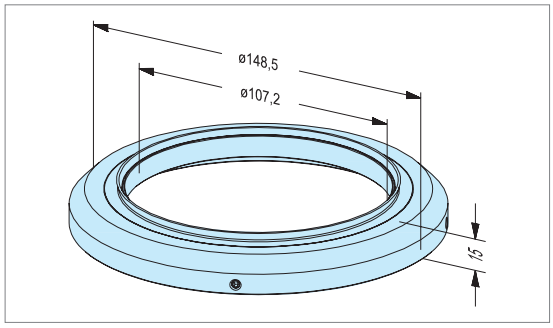
INOX auto 148

Version Rust-resistant steel.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA ITS pallets ø 148.



ER-016142 Sealing ring holder PC P / ø 115 manual

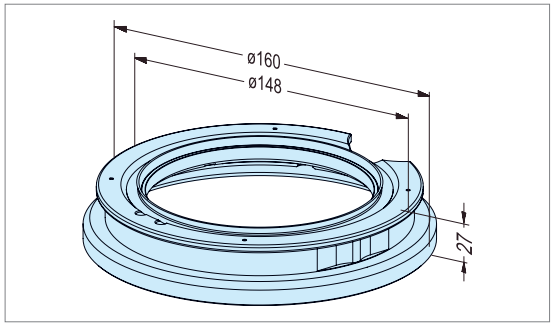
Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA ITS pallets ø 115.



ER-055751 Sealing ring PC P for pallet ø115 automatic

INOX auto 148

Version Rust-resistant steel.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA ITS pallets ø 115.

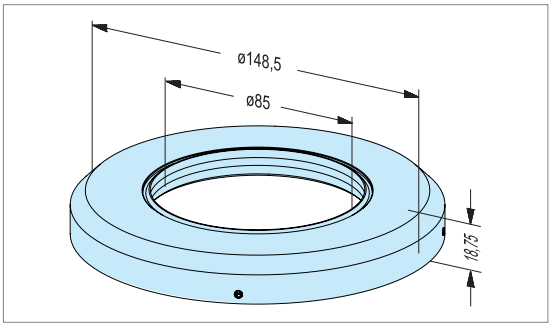


EROWA PowerChuck P

Sealing rings

ER-038918 Sealing ring PC P / PM 85 manual

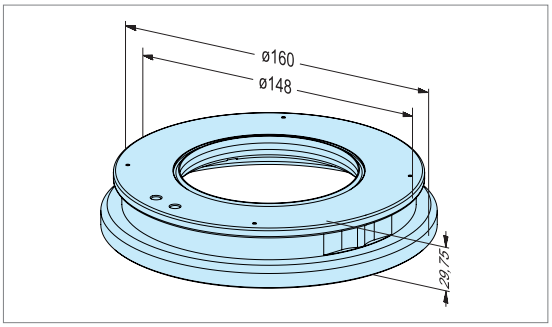
Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA pallets PM85.



ER-055755 Sealing ring PC P / PM 85 automatic

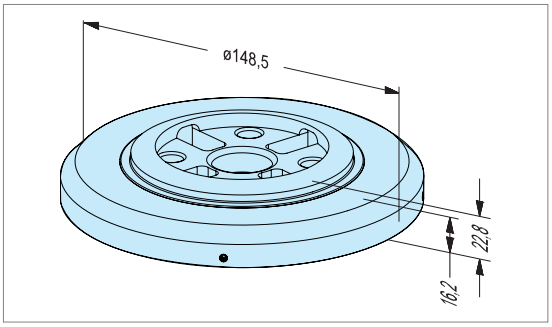
INOX auto 148

Version Rust-resistant steel.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA pallets PM85.



ER-035365 Sealing ring PC P / ø 72 manual

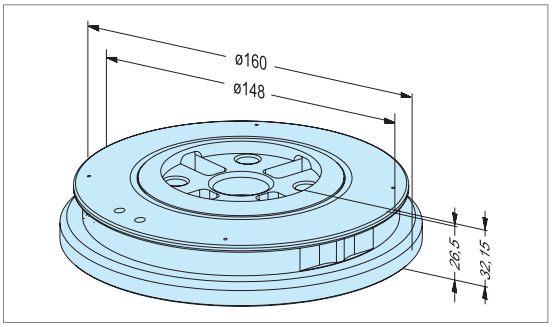
Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA Holders ø 72.



ER-055761 Sealing ring PC P P / ø 72 automatic

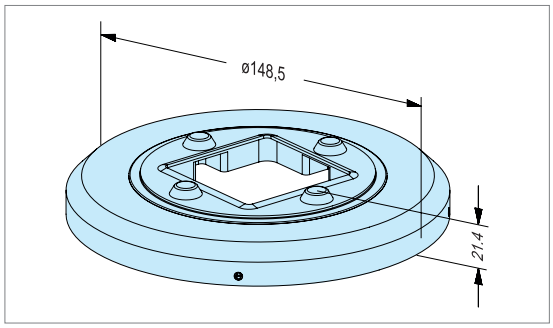
INOX auto 148

Version Rust-resistant steel
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA Holders 72.



ER-092203 Sealing ring PC P / ITS 50 C manual

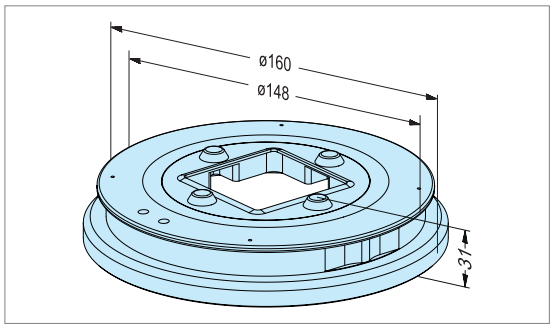
Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the Power-Chuck P when clamping EROWA electrode holders C.



ER-092201 Sealing ring PC P / ITS 50 C automatic

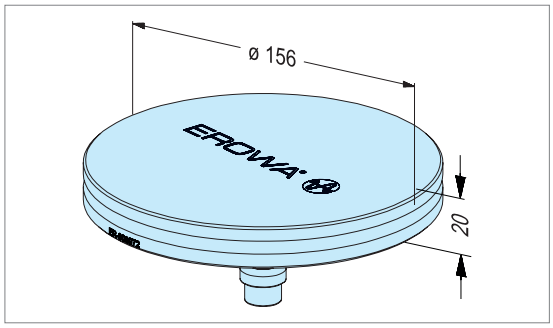
auto 148

Version Rust-resistant steel
Application Prevents penetration of chips and dirt into the PowerChuck P during machining with EROWA electrode holders C.



ER-008972 Cover for PowerChuck P

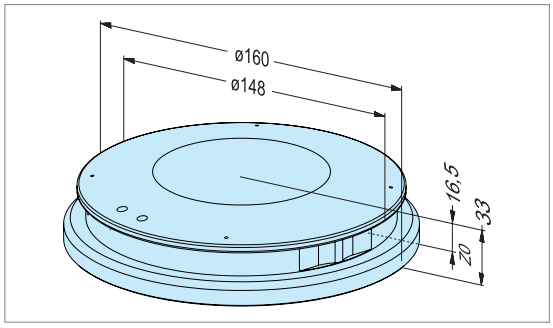
Version Aluminum. Without centering plate and supports.
Application Protects the PowerChuck P from chips and cooling water when not in use.



ER-055763 Cover to PowerChuck P

INOX auto 148

Version Rust-resistant steel.
Application Prevents penetration of chips and dirt into the PowerChuck P. For automatic handling.

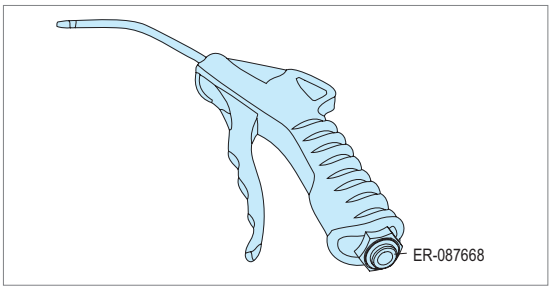


EROWA PowerChuck P

Operation

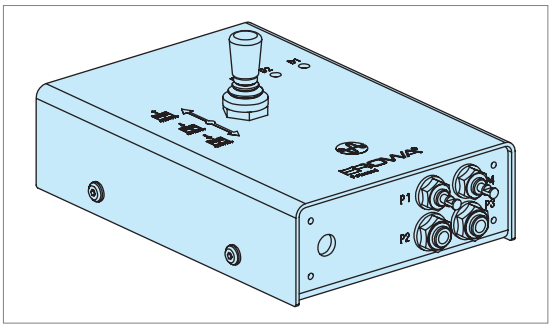
ER-001846 Air jet

Version	Plastic, smooth regulation of air flow, connection 1/4'', inside thread.
Application	Operation of manual chucks.
Note	Not suitable for operating MTS+ and MTS81.
Option	Volume and pressure reduction to air jet (ER-087668). Pressure build up is reduced if Air Jet is not pushed against an air valve.



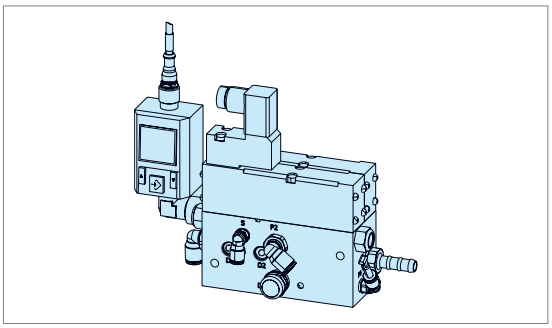
ER-008988 Manual control unit

Version	Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC: opening/reclamping/cleaning.
Application	Operation of chucks on machines.



ER-070445 Control unit with monitoring

Version	Electropneumatic valve. Outputs for chucks: opening/cleaning/reclamping. 24 V, incl. mounting accessories and 3m connection hose.
Application	Operation and monitoring of machine-integrated chucks, for instance through the CNC M-function.

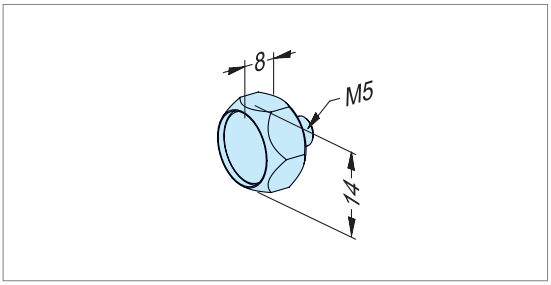


EROWA PowerChuck P

Accessories

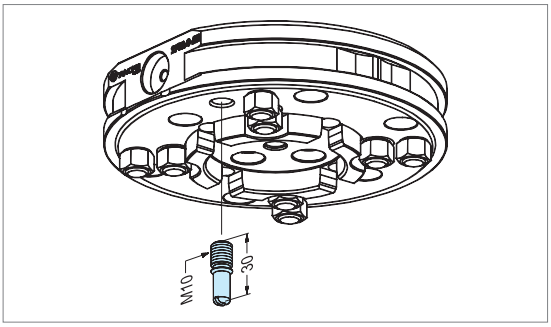
ER-094168 EWIS™ rapid chip with holder SW14 Length 8 mm (grey)

Version: Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application: In any EROWA electrode holder and pallet which has been prepared for it.



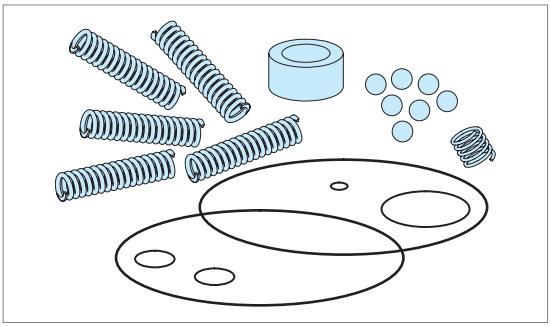
ER-046221 Reference bolt ø 7.7, M10 x 30 10 pieces

Version: Set of 10 bolts. Bolts have been reworked.
Application: On pallets ø 148 mm: for positional orientation in PowerChuck P and Robot magazines.



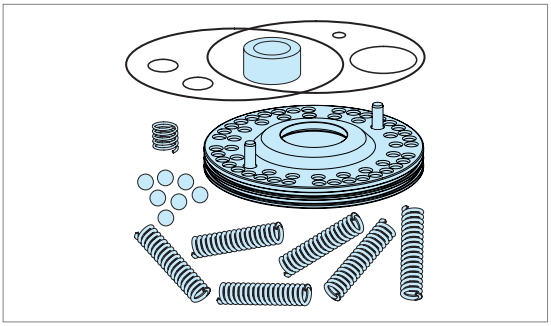
ER-115749 Repair kit PowerChuck P

Version: All the wearing parts for the PowerChuck P.
Application: Dismantle chuck according to enclosed instructions, replace parts.



ER-115844 Repair kit PowerChuck P with locking ring

Version: All the wearing parts, including locking ring, for the PowerChuck P.
Application: Dismantle chuck according to enclosed instructions, replace parts.

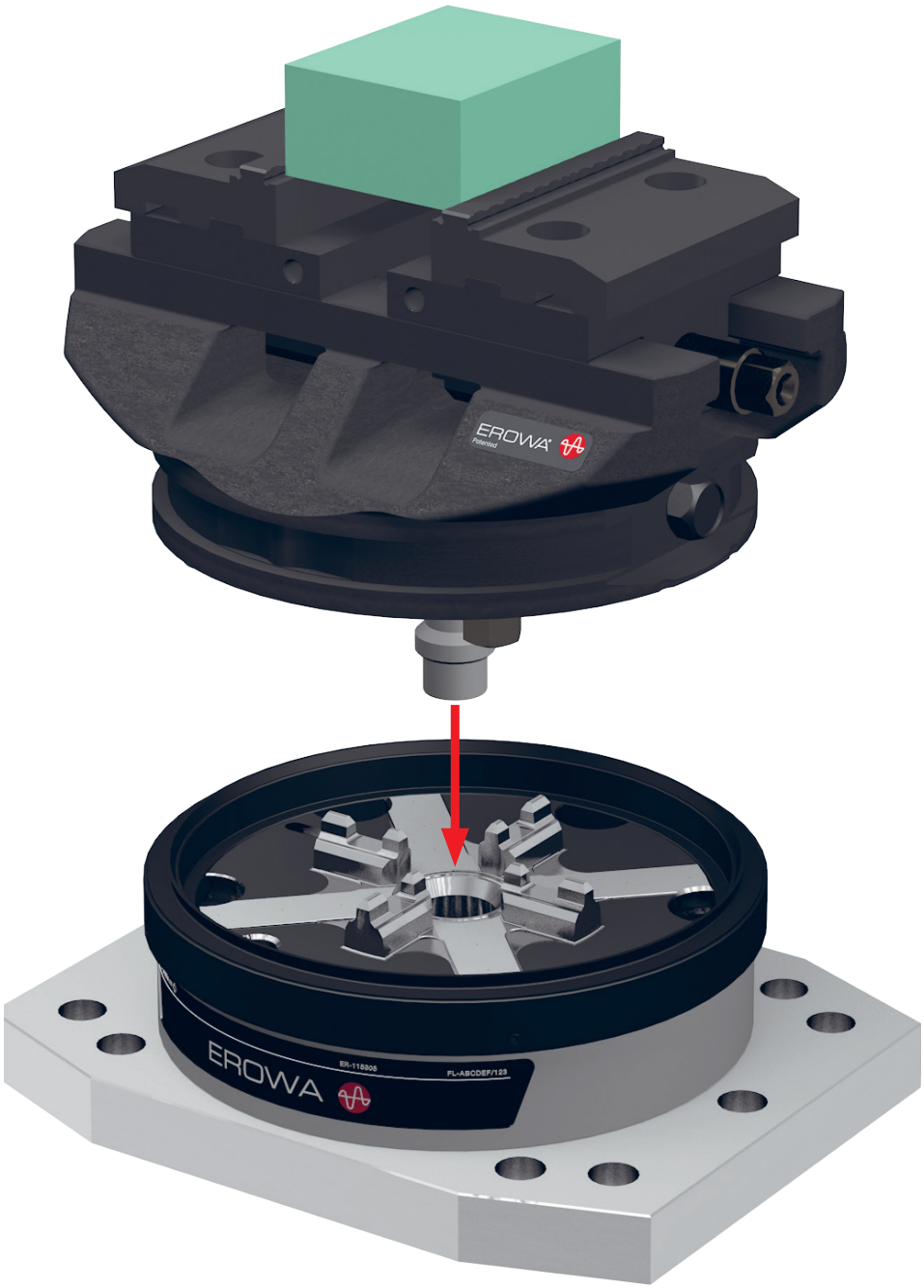


EROWA Blank vise

Robust quality and precision

For holding blanks, a strong connection between clamping elements and workpiece is the decisive factor.

With the EROWA blank vise, workpieces are securely clamped with high clamping power at minimum height. The vise features a very compact and robust, but nevertheless light design.



Applications

Handling

Manual / Loading facility / Robot

Function



01 | Clamping jaws
In various versions, can be changed quickly.

02 | Mounting thread
For mounting the workpiece fixed stop.

03 | Base component
Compact and robust design with integrated gripper slot.

04 | Protection
For the spindle, maintenance-free and sealed.

05 | Key / keyway
For positioning the clamping jaws (20 mm grid).

06 | Stamp clamping jaws
Minimal clamping height (3 mm). Pre-stamping on the stamping station is not required.

07 | Spindle
Access from both sides for clamping and unclamping.

Blank vise

Technical data - Blank vise

Blank vise	148 P	72
Clamping power at 90 Nm torque	35,000 N	
Clamping power at 30 Nm torque		10,000 N
Repeatability	0.02 mm	0.02 mm
Clamping range	0 - 165 mm	0 - 92 mm
Spindle/slide	wear-free and low maintenance	
Material	rust-resistant, hardened	
Options	various clamping jaws	
	Chucking spigots for ITS or MTS	
	Torque wrench	

EROWA Blank vise in action

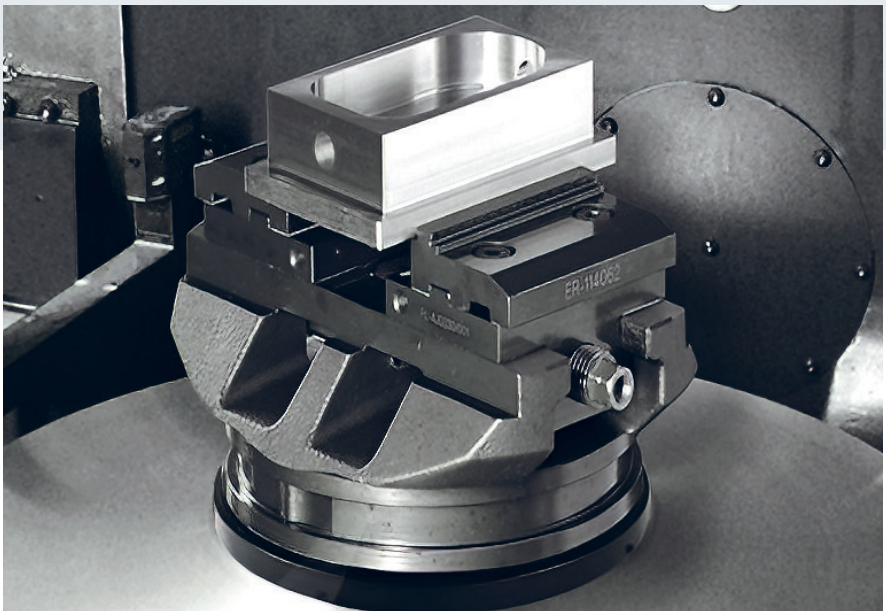
Flexible and versatile in use

Depending on requirements, the clamping jaws can be used individually, allowing a large range of different workpiece sizes to be clamped.

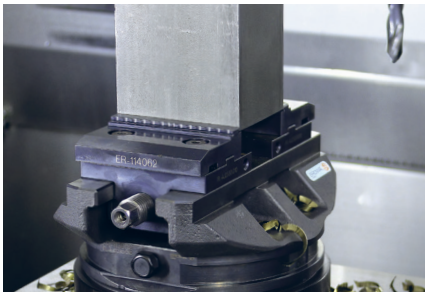
FACTS

- Powerful blank holding without pre-stamping
- Clamping power up to 35 kN
- Large clamping range 0 - 165 mm
- Repeatability 0.02 mm
- Flexible with exchangeable jaws
- Prepared for automation

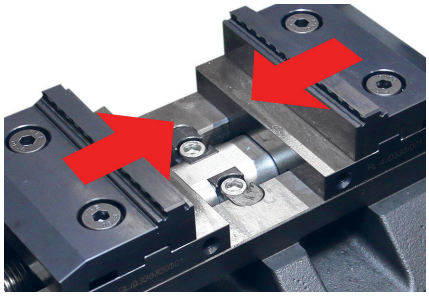




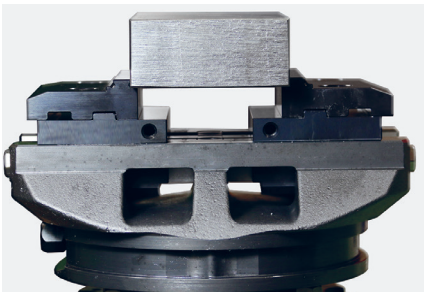
Thanks to the built-in interface, the blank vise can be clamped in the EROWA PowerChuck P, Production-Chuck 210 Combi, and MTS Single chucks.



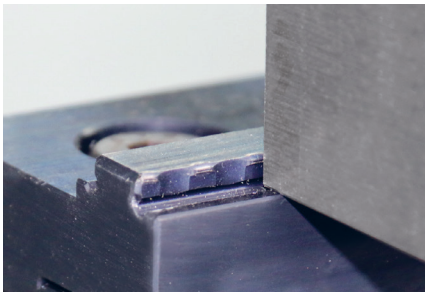
The blank vise allows powerful and reliable clamping up to 35 kN.



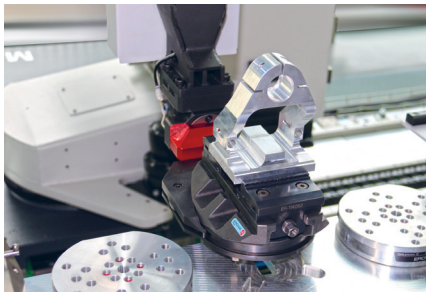
The blank vise features excellent centering accuracy and repeatability. The workpiece is centrically clamped by a clamping spindle that is accessible on both sides.



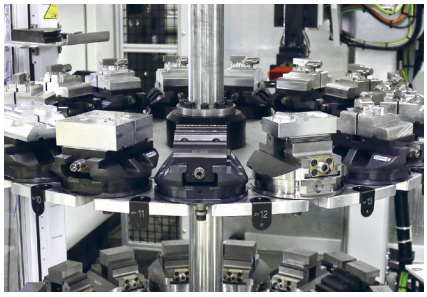
The clamping jaws can be exchanged and offer a flexible clamping range of up to 165 mm and can be mounted rotated 180°.



Thanks to the stamping technology, workpieces are held firmly and securely at a clamping height of only 3 mm.



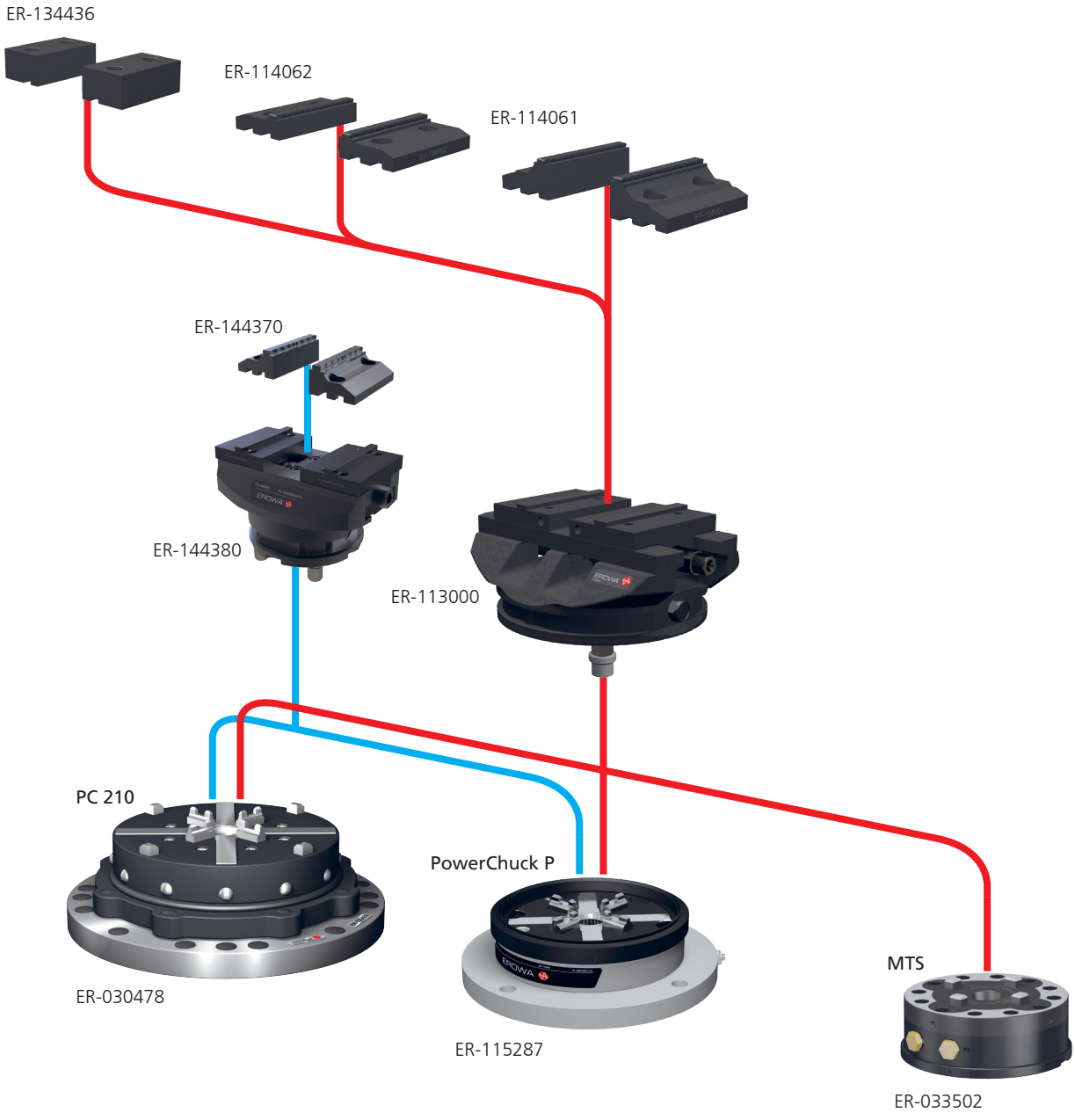
Blank vises can be automated - the carrier pallet is prepared for EWIS chip and has a gripper slot. This allows it to be picked up with the appropriate robot gripper.



Equipped blank vises loaded in the robot magazine. The proportion of productive hours on the machine tool is significantly increased.

EROWA Blank vise

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA BLANK VISE

Blank vise		152
Blank vise	Clamping jaws	152
Blank vise	Accessories	153

For chip-removing processes

For EDM sinking

For WEDM

EROWA Blank vise

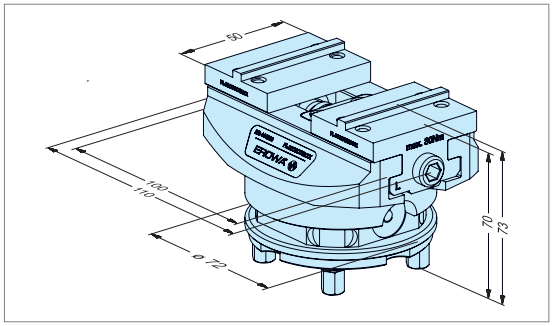
Blank vise

Technical data	Blank vise 148 P	Blank vise 72
Clamping power at 90 Nm torque	35,000 N	
Clamping power at 30 Nm torque		10,000 N
Repeating accuracy	0.02 mm	0.02 mm
Clamping range	0 - 165 mm	0 - 92 mm
Spindle/slide	wear-free and low maintenance	
Material	rust-resistant, hardened	

ER-144380 Blank Vise 72



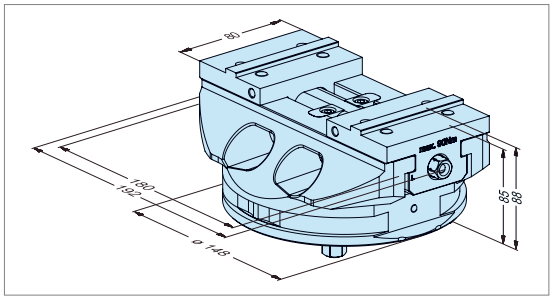
Version	Blank vise 72, excluding camping jaw and chucking spigots.
Application	To clamp workpieces. For use on ITS Chuck, PC 210 Combi and PowerChuck P.
Accessories	Stamp jaws ER-144370, chucking spigot F/M Production ER-010742, lateral stops, torque wrenches, etc.



ER-113000 Blank Vise 148 P



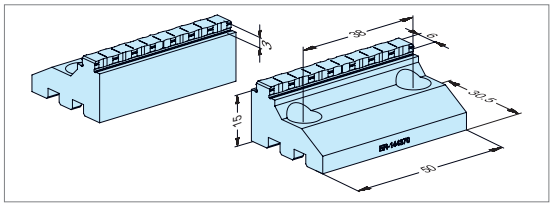
Version	Blank vise 148 P, excluding camping jaw and chucking spigots.
Application	To clamp workpieces. For use on PC 210 Combi, Power-Chuck P and MTS/MTS2.0 SingleChuck.
Accessories	Clamping jaws ER-114061, ER-114062 and ER-134436, chucking spigot F/M Production ER-010742 or MTS chucking spigot P ER-040999, lateral stops, torque wrenches, etc.



Clamping jaws

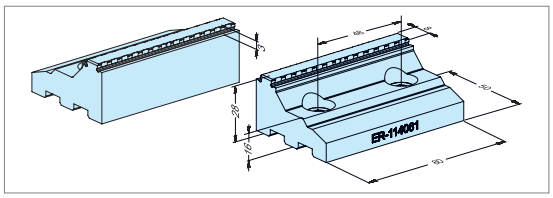
ER-144370 Stamp jaws 15 mm 1 pair for Blank Vise 72

Version	Q & T steel, hardened and groud, clamping height: 15mm.
Application	To clamp workpieces on Blank Vise 72 (ER-144380), without pre-machined surfaces.
To fit	With M5x12 socket head bolts (supplied).
Note	Supplied in pairs, with 4 M5x12 socket head bolts (ER-000930).

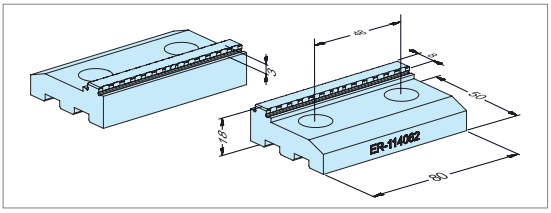


ER-114061 Stamp jaws 25 mm 1 pair for Blank Vise 148 P

Version	Q & T steel, hardened and ground, clamping height: 25mm.
Application	To clamp workpieces on blank vise 148 P (ER-113000) without prepared surfaces.
To fit	With M8 x 16 hexagon socket bolts (supplied).
Note	Supplied in pairs, with 4 M8 x 16 hexagon socket bolts (ER-000966).

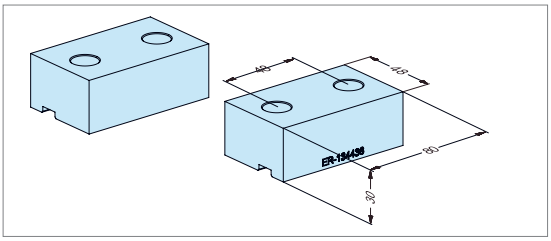


ER-114062 **Stamp jaws 15 mm**
1 pair for Blank Vise 148 P



Version	Q & T steel, hardened and groud, clamping height: 15mm.
Application	To clamp workpieces on Blank Vise 148 P (ER-113000), without pre-machined surfaces.
To fit	With M8x16 low-head socket bolts (supplied).
Note	Supplied in pairs, with 4 M8x16 socket head bolts (ER-088571).

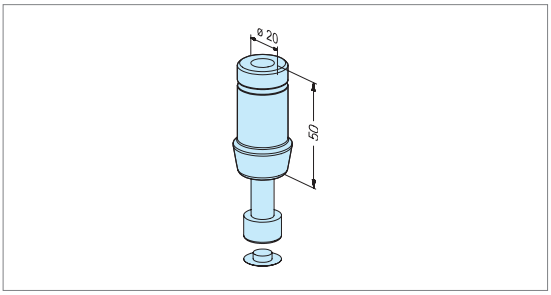
ER-134436 **Clamping jaw soft**
1 pair for Blank Vise 148 P



Version	Q & T steel, unhardened, dimension 80 x 48 x 30mm.
Application	For producing of jaws with contours of your choice.
To fit	With hexagon socket head bolts M8 x 16mm.
Note	Supplied in pairs, with 4 hexagon socket head bolts.

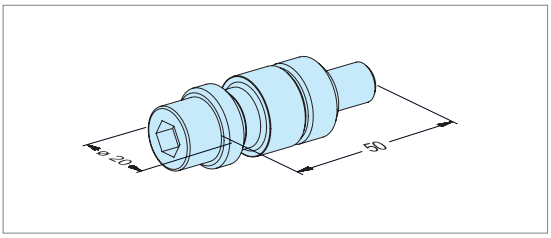
Accessories

ER-040999 **MTS chucking spigot P**
1 piece



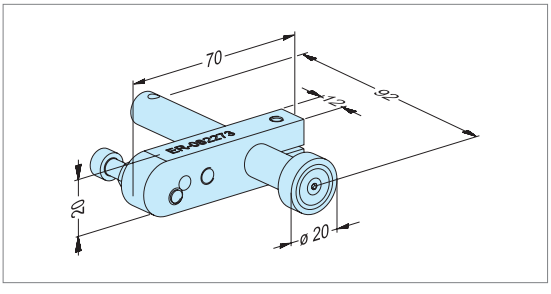
Version	MTS chucking spigot, including attachment bolt and protective cap.
Application	To be mounted on pallets ø 148 P.
Note	In automatic operation additionally use MTS sealing ring ER-045969.

ER-010742 **Chucking spigot F/M production**
1 unit



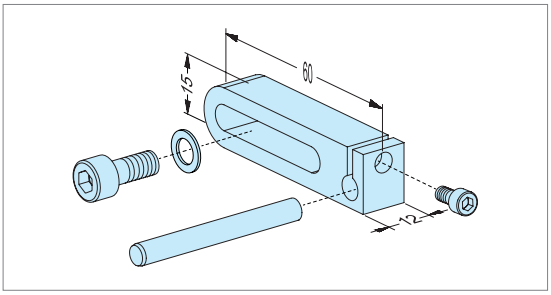
Version	Manual. M10x50mm bolt, 12.9 quality (without flushing hole).
Application	To mount on EROWA pallets for chip-cutting machining processes.

ER-082273 **Magnetic stop**



Version	Stop made of anodized aluminum.
Application	Magnetic stop used for positioning workpieces in vises.
Important	Remove the magnetic stop before machining the part.

ER-099201 **MillStop**



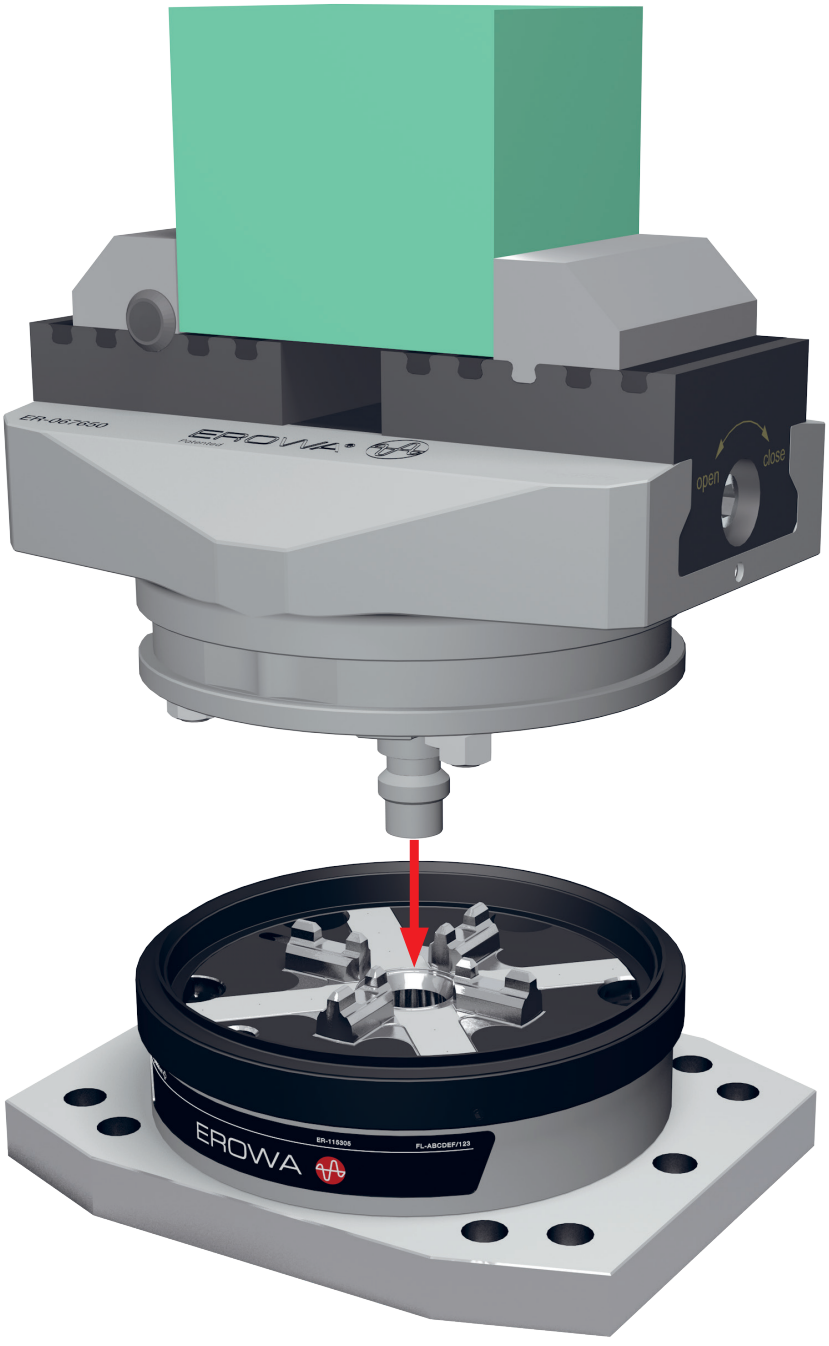
Version	Adjustable stop made of steel.
Application	Lateral stop on any CleverClamp clamping or stop element.
Mounting	Use the bolts supplied to fit it laterally to the CleverClamp clamping or stop elements of your choice.

EROWA self-centering vise

High quality and precision

Is a high degree of precision and repeatability a must when it comes to clamping your workpieces?

The EROWA self-centering vise satisfies the highest standards. The self-centering vise combines precision, stability and flexibility in the machining of complex workpieces while simultaneously reducing set-up times.

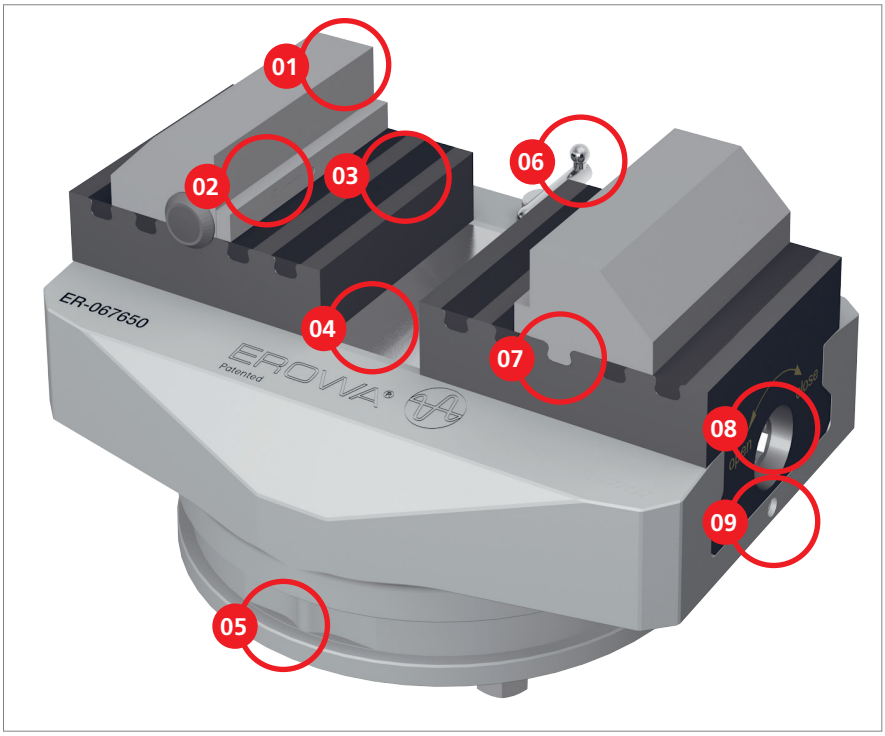


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Clamping jaw
Various versions; can be exchanged quickly without any tools.

02 | Workpiece support
Can be exchanged quickly.

03 | Dirt cover
Simple but effective.

04 | Protective cover
For the precision spindle, maintenance-free and well protected.

05 | Base component/pallet
Made from one piece; hardened and corrosion-resistant. Pallet with EROWA P (production) or G-centering.

06 | Stop
Adjustable workpiece stop.

07 | Key/keyslot
To position the clamping jaws (15mm grid).

08 | Spindle
Accessible from both sides; coated, as is the slide, which provides it with a long lifecycle.

09 | Setting screw
Placed on both sides, to set the center.

Technical Data - Self Centering Vise

	Self Centering Vise 148	Self Centering Vise 85
Clamping force at 60 Nm	19,000 N	
Clamping force at 35 Nm		14,000 N
Repeatability	0.01 mm	0.01 mm
Clamping stroke of spindle	30 mm	30 mm
Opening width	5-155 mm	5-95 mm
Contact spacing of jaw positioning	15 mm	15 mm
Clamping mechanism	maintenance-free	maintenance-free
Material	hardened, rust-resistant	hardened, rust-proof
Compatibility with EROWA tooling (depending on model)	ITS, PowerChuck P, PC210 Combi, MTS Single Chuck	ITS, PowerChuck P, PM85
Options	- different jaws, - dust cover for profiles - pads in various heights - clamping pin for ITS or MTS - torque wrench	- different jaws, - dust cover for profiles - pads in various heights - clamping pin for ITS - torque wrench

EROWA self-centering vise in use

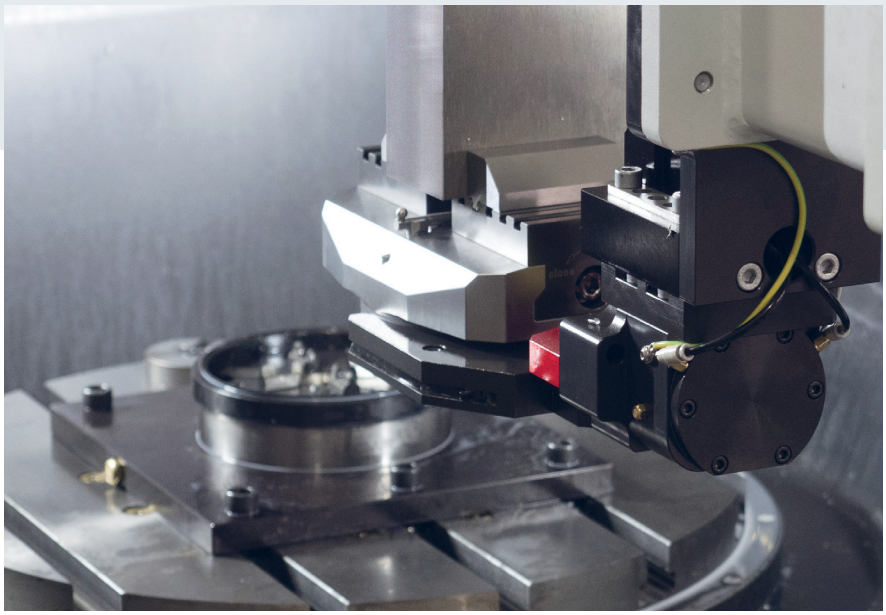
Clamps reliably and flexibly

The self-centering vise 148 P has been made from one piece and guarantees the highest degree of stability. The integrated pallet with P centering is the precise interface with the chuck and provides highest process reliability in automatic operation.

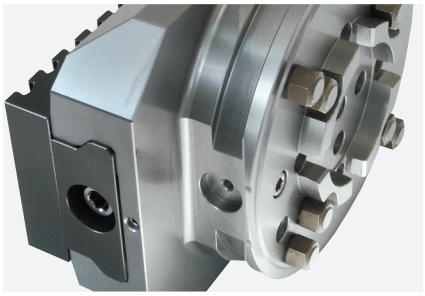
FACTS

- Pallet and vise base component made from one piece
- Slide and spindle are high-tech coated and are wear-free
- Two different sizes (85 +148)
- Great selection of clamping jaws
- Can be automated





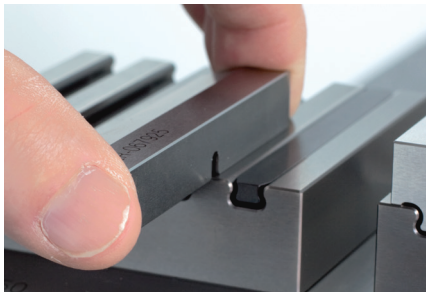
The self-centering vises can be automated. EROWA provides a suitable handling facility for every field of application and for all technologies.



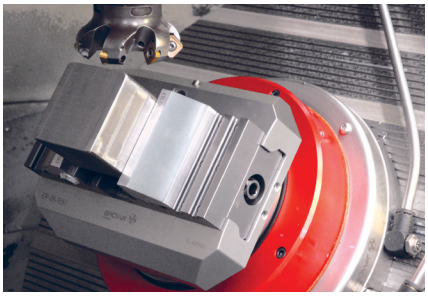
The entire body of the self-centering vise has been made of corrosion-resistant and hardened steel. The P-centering stands for power and precision.



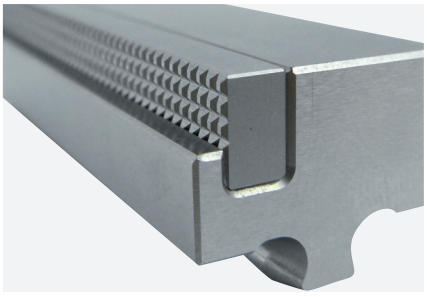
The slide and the spindle are high-tech coated and wear-free. The precision spindle and the guide rails are additionally protected against contamination.



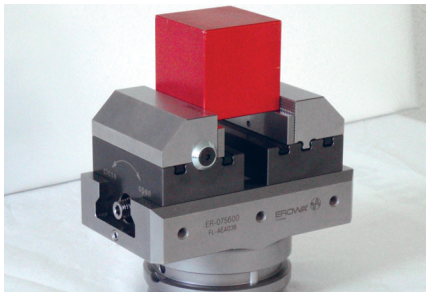
The clamping jaws can be put on manually without the use of any tools.



The workpiece is powerfully clamped and easily accessible from all sides.



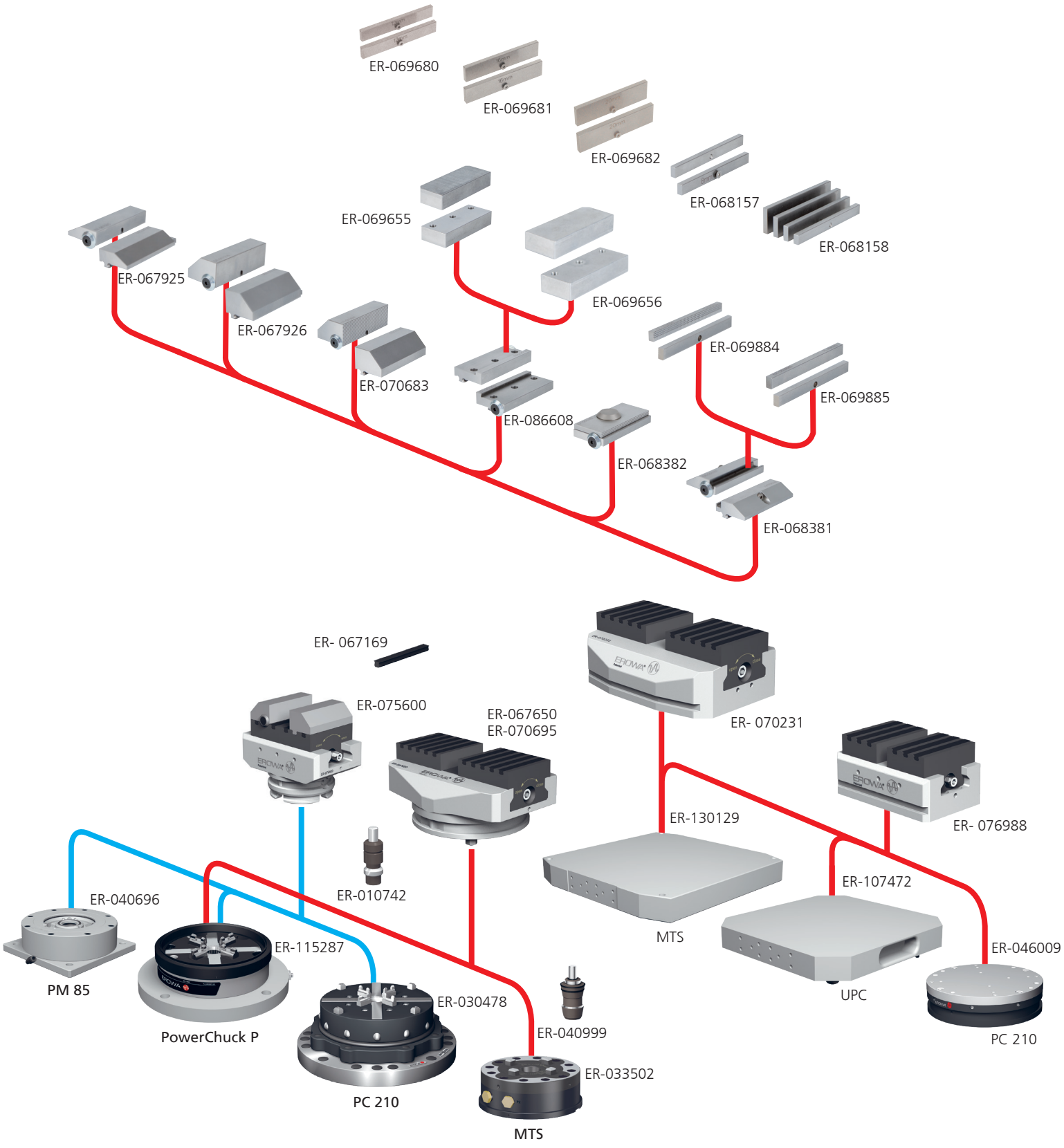
The SlipStop® surface prevents unhardened workpieces from slipping off. This more than doubles the holding power.



The smaller model 85 P self-centering vise is intended for use on smaller machines.

EROWA Self Centering Vise

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA SELF CENTERING VISE

Self Centering Vise 85 160
Self Centering Vise 148 160
Self Centering Vise clamping jaws 161
Self Centering Vise auxiliary equipment 163

For chip-removing processes

For EDM sinking

For WEDM

EROWA Self Centering Vise

Self Centering Vise

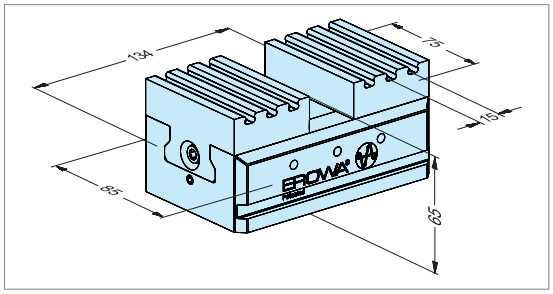
Technical data	Self Centering Vise 148	Self Centering Vise 85
Clamping force at 60 Nm (35 Nm by Typ 85)	19,000 N	14,000 N
Repeatability	0.01 mm	0.01 mm
Clamping stroke of spindle	30 mm	30 mm
Opening width	5-155 mm	5-95 mm
Contact spacing of jaw positioning	15 mm	15 mm

ER-076988 Self Centering Vise 85 without pallet





Version	Stainless material, hardened and ground.
Accessories	Various jaws, torque wrenches etc.
Application	To clamp workpieces. To be mounted on pallets or directly on the machine table.

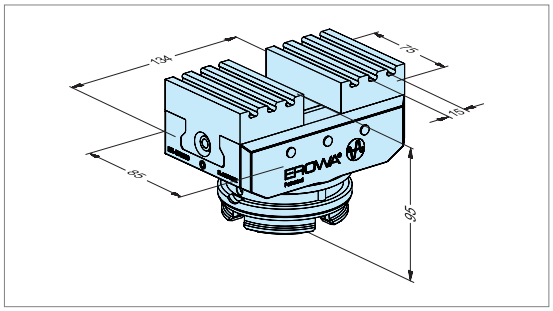


ER-075600 Self Centering Vise 85 P





Version	Rust-resistant material, hardened and ground. Pallet fully integrated.
Optional Accessories	Chucking spigot F/M Production ER-010742.
	Various clamping jaws, torque wrenches, etc.
Application	Clamping of workpieces. Operation possible on ITS, PM85 and PowerChuck P.

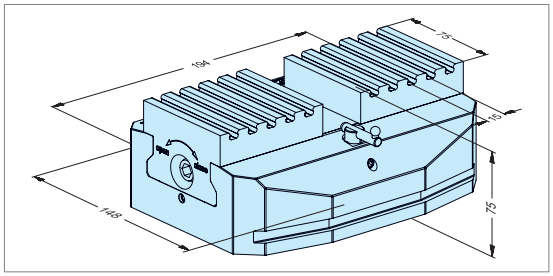


ER-070231 Self Centering Vise 148 without pallet





Version	Self-Centering Vise 148, including lateral stop.
Accessories	Various jaws, torque wrenches etc.
Application	To clamp workpieces. Mounting on pallets. Mounting directly on the machine table.

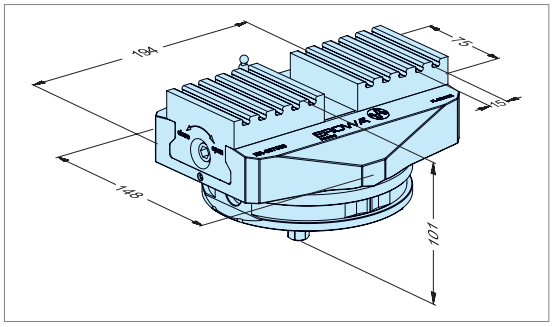


ER-070695 Self Centering Vise 148 G





Version	Self-Centering Vise 148 G, including lateral stop.
Optional Accessories	Chucking spigot F/M Production ER-010742.
	Various jaws, torque wrenches etc.
Application	To clamp workpieces. For use on PC 210 Combi, PowerChuck P & F, UPC with ITS.



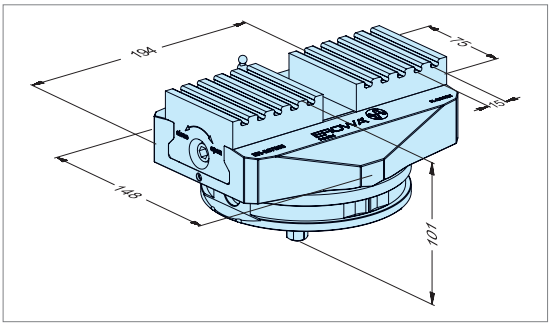
EROWA Self Centering Vise

Jaws

ER-067650 Self Centering Vise 148 P

INOX | auto | 148

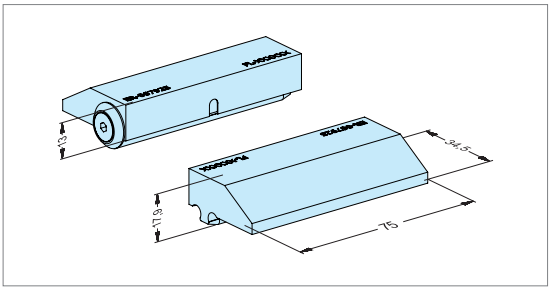
Version	Self-Centering Vise 148 P, including lateral stop.
Optional	Chucking spigot F/M Production ER-010742 or MTS chucking spigot P ER-040999.
Accessories	Various jaws, torque wrenches etc.
Application	To clamp workpieces. For use on PC 210 Combi, PowerChuck P, MTS SingleChuck.



ER-067925 Jaws 13 mm (1 pair) for self centering vise

INOX

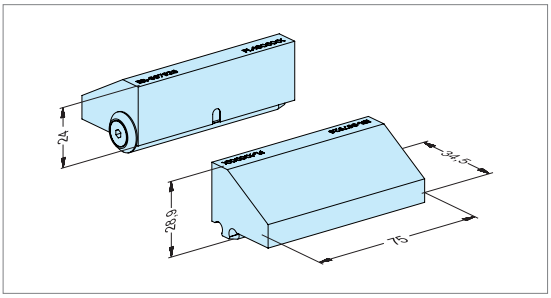
Version	Steel, hardened and ground; height: 13 mm.
Note	Supplied in pairs.
Application	To clamp workpieces with machined surfaces.



ER-067926 Jaws 24 mm (1 pair) for self centering vise

INOX

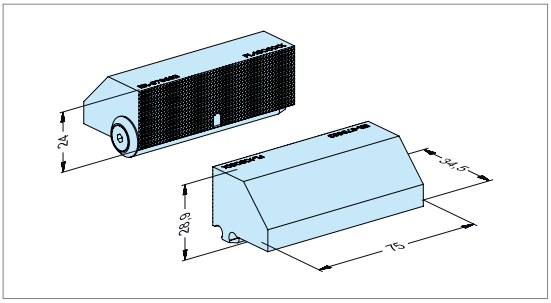
Version	Steel, hardened and ground; height: 24 mm.
Note	Supplied in pairs.
Application	To clamp workpieces with machined surfaces.



ER-070683 Jaws 24 mm grip (1 pair) for self centering vise

INOX

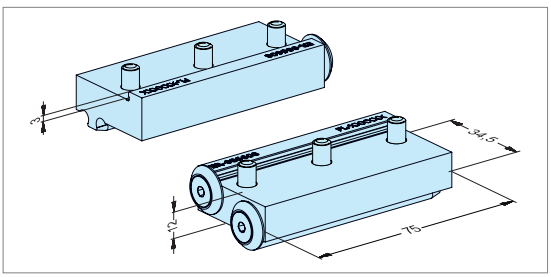
Version	Steel, hardened and ground; height: 24 mm; with grip contours.
Note	Supplied in pairs.
Application	Ideal to clamp unhardened workpieces.



ER-086608 Adapters for interchangeable jaws 1 pair, for self centering vise

INOX

Application	Steel, hardened and ground, with attachment bolts.
Note	Supplied in pairs.
Application	To accommodate customized interchangeable jaws of your choice.



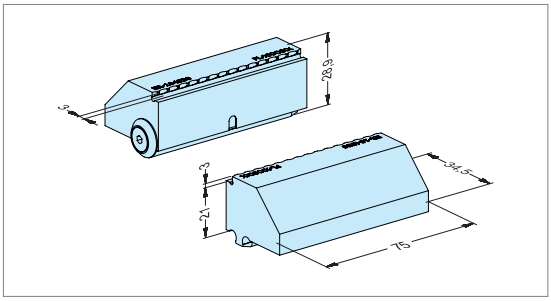
EROWA Self Centering Vise

Jaws

ER-104530 Stamp jaws 24 mm universal (1 pair) for self centering vise

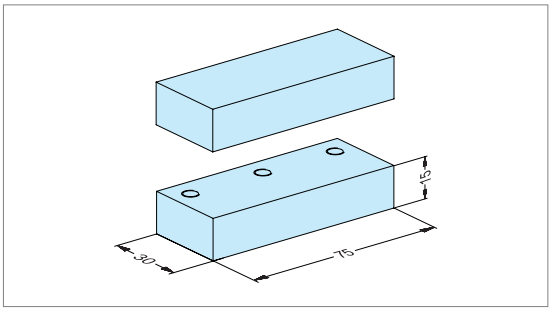
INOX

Version	Steel, hardened and ground; height: 24 mm.
Version	Supplied in pairs.
Application	Ideal for clamping blanks at a minimum clamping height of 3mm and for machining the second clamping with the smooth jaw surface.



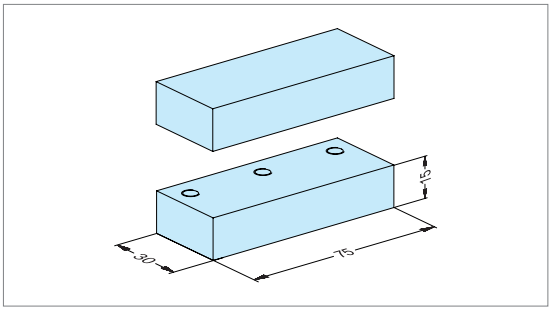
ER-069655 Interchangeable jaws steel unhardened 1 pair, to fit adapter ER-086608

Version	Steel, unhardened, dimensions: 75 x 30 x 15 mm, including attachment boreholes, fully prepared.
Note	To fit adapter ER-086608.
Application	To produce jaws with contours of your choice.



ER-069656 Interchangeable jaws Alu 1 pair, to adapter ER-086608

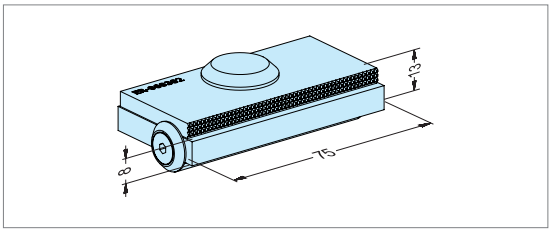
Version	Aluminum, dimensions: 75 x 30 x 15 mm, including attachment boreholes, fully prepared.
Note	To fit adapter ER-086608.
Application	To produce jaws with contours of your choice.



ER-068382 Pendulum jaw 1 piece, for self centering vise

INOX

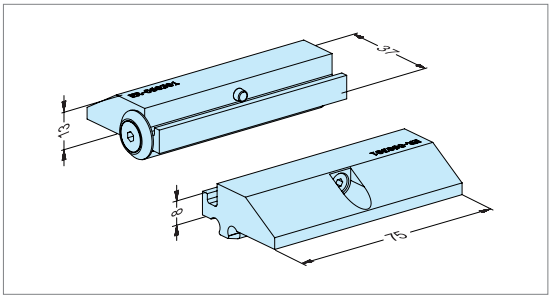
Version	Hardened ground jaw with pendulum compensation for oblique workpieces.
Application	To clamp workpieces with oblique outer surfaces.
To fit	Insert.



ER-068381 Adapter 5 mm for SlipStop® jaw inserts 1 pair, for self centering vise

INOX

Version	Steel, hardened and ground. With fixing screw for inserts, clamping height 5 mm.
Note	Delivered in pairs.
Application	To accomodate SlipStop® inserts ER-069884 and ER-069885.



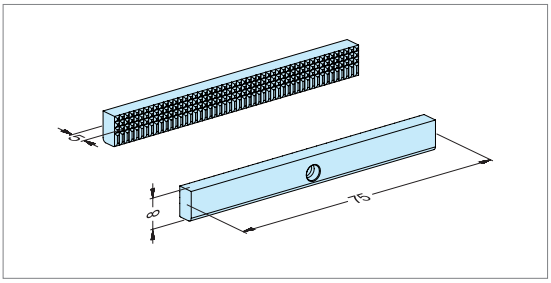
EROWA Self Centering Vise

Auxiliary equipment

ER-069884 SlipStop® insert, riffled 1 pair, for adapter ER-068381

INOX

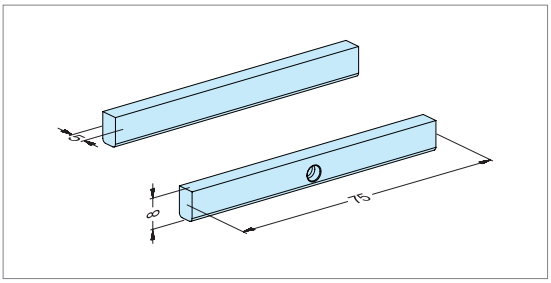
Version	Steel, hardened and ground, height: 24 mm, with riffled contour.
Note	Supplied in pairs.
Application	To clamp workpieces with machined surfaces.



ER-069885 SlipStop® insert, ground 1 pair, for adapter ER-068381

INOX

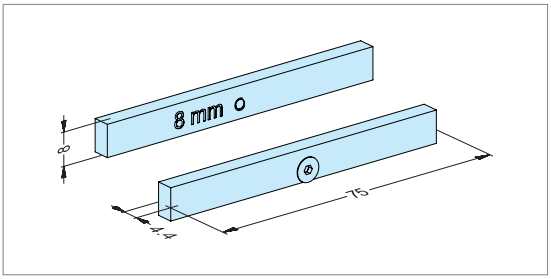
Version	Steel hardened and ground.
Note	Delivered in pairs.
Application	Suitable for Adapter ER-068381. Ideal for the clamping of ground workpieces.



ER-068157 Support 8 mm, 1 pair for self Centering vise

INOX

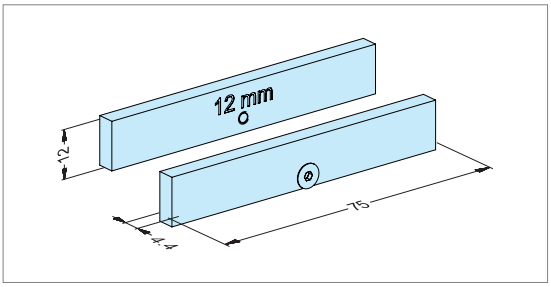
Version	1 pair of hardened, ground supports.
Application	For the optimal positioning of workpieces at the correct height on the self-centering vise.
To fit	Insert in the jaws, the insert jaws with the supports into the profile.



ER-069680 Support 12 mm mounted self centering vise

INOX

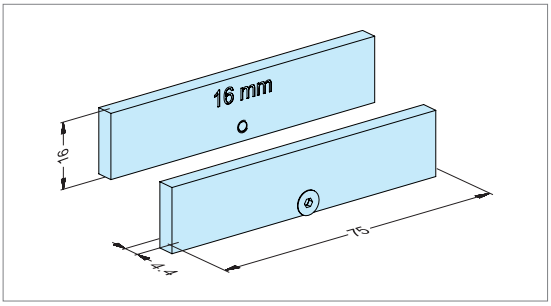
Version	1 pair of hardened, ground supports.
Application	For the optimal positioning of workpieces at the correct height on the self-centering vise.
To fit	Insert in the jaws, the insert jaws with the supports into the profile.



ER-069681 Support 16 mm mounted self centering vise

INOX

Version	1 pair of hardened, ground supports.
Application	For the optimal positioning of workpieces at the correct height on the self-centering vise.
To fit	Insert in the jaws, the insert jaws with the supports into the profile.



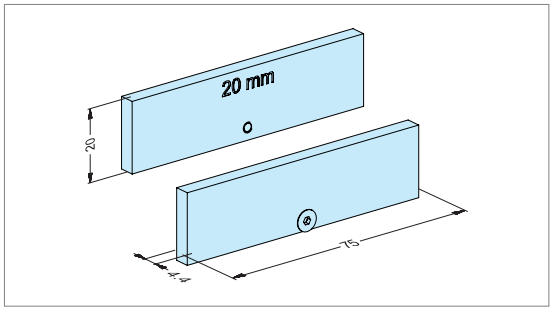
EROWA Self Centering Vise

Auxiliary equipment

ER-069682 Support 20mm mounted Self Centering vise

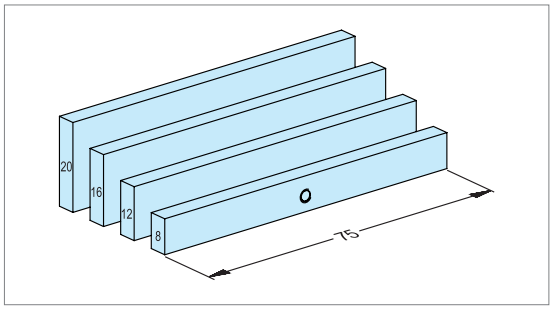
INOX

Version	1 pair of hardened, ground supports.
Application	For the optimal positioning of workpieces at the correct height on the self-centering vise.
To fit	Insert in the jaws, the insert jaws with the supports into the profile.



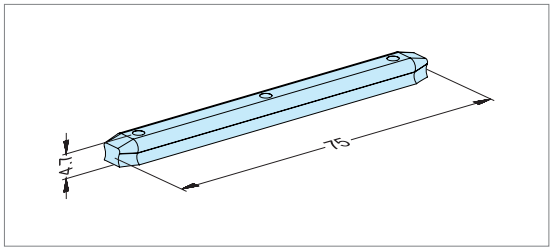
ER-068158 Support set (4 pairs) for self centering vise

Version	Set of ground supports, heights 8, 12, 16 and 20 mm.
Application	Support for the height positioning of workpieces.
To fit	Insert the support into the groove of the jaw with the help of the holding device.



ER-067169 Chip cover for self centering vise

Version	1 plastic cover.
Application	To protect the empty profile inserts at the base of the self-centering vise.
To fit	Insert.



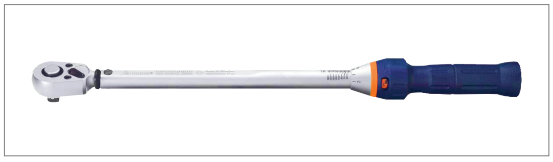
ER-052602 Torque wrench Tohnichi 10 - 50 Nm to self centering vice 100/150/200

Version	Torque wrench, 10-50Nm.



ER-068026 Torque wrench 20 - 120 Nm 1/2" Garant 65 6050

Version	Torque wrench, 20-120Nm.
Application	For blank holder 148 P and centering vise 148.



ER-068025 Hexagon-Socket wrench 14mm 1/2“ Garant 642130



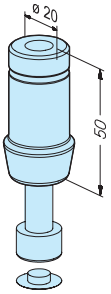
Version Hexagon wrench socket, 14mm, with 1/2“ drive.
Application For centering vise 148.

ER-078521 Hexagon-Socket wrench, SW 10, 3/8“



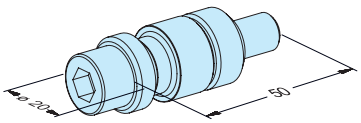
Version Hexagon wrench socket, 10mm, with 3/8“ drive.
Application For EROWA centering vise 85.

ER-040999 MTS chucking spigot P 1 piece



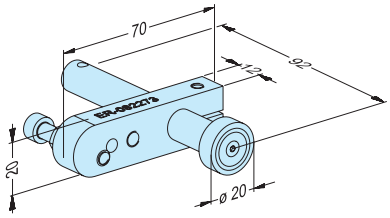
Version MTS chucking spigot, including attachment bolt and protective cap.
Application To be mounted on pallets ø 148 P.
Note In automatic operation additionally use MTS sealing ring ER-045969.

ER-010742 Chucking spigot F/M production 1 unit



Version Fixed type, manual. Bolt 12.9, without flushing hole.
Application In pallets for chip-cutting machining processes.

ER-082273 Magnetic stop



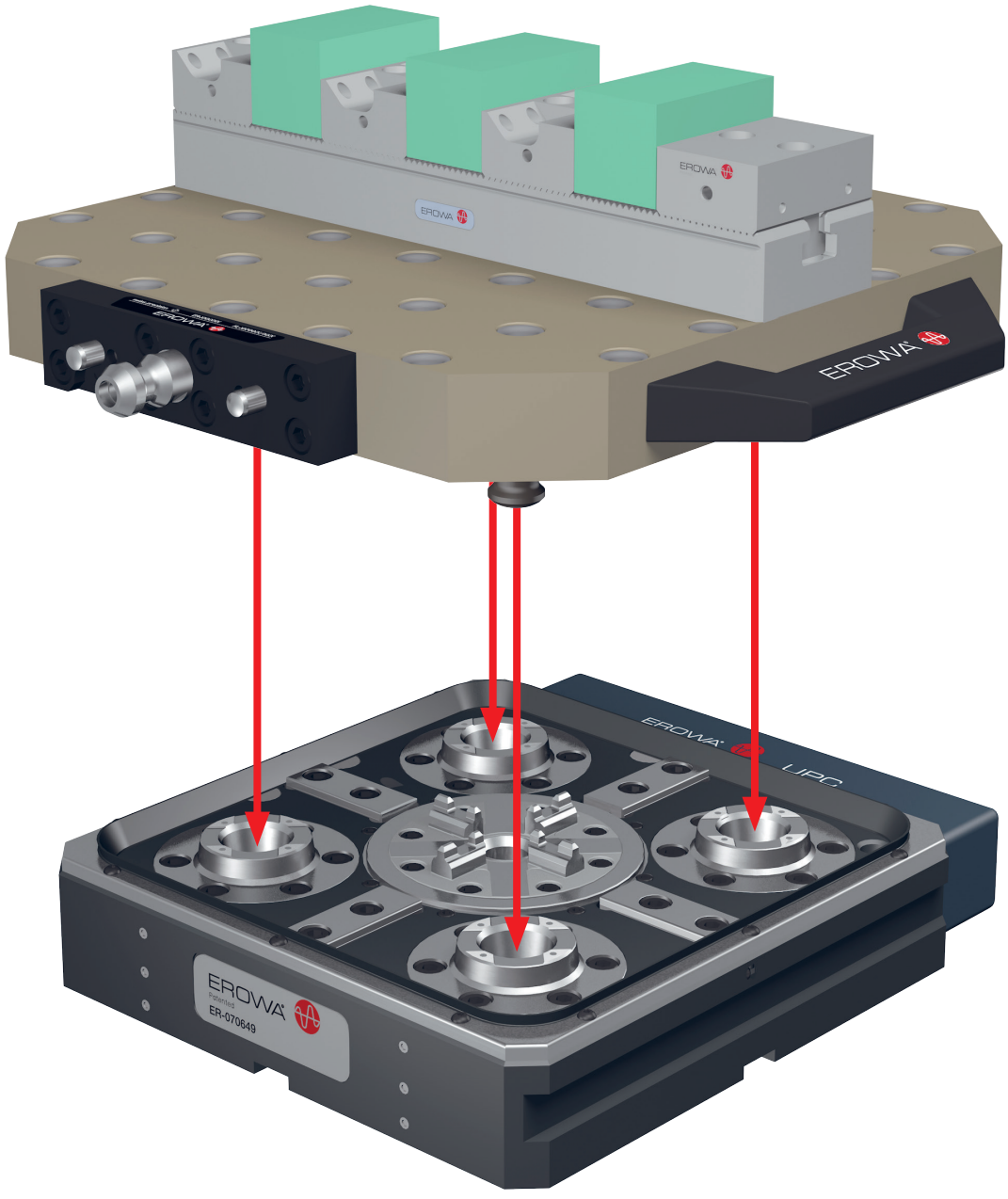
Version Stop made of anodized aluminum.
Application Magnetic stop used for positioning workpieces in vises.
Important Remove the magnetic stop before machining the part.

EROWA ClampSet

For universal use and high precision

EROWA ClampSet is the modular system for the precise clamping of workpieces. It can be universally used throughout the EROWA manufacturing concept.

The base rails and clamping elements have been produced in accordance with the highest standards and enable operators to position workpieces with a high degree of precision. ClampSet is optimally suited for the high precision requirements in tool- and mold-making.

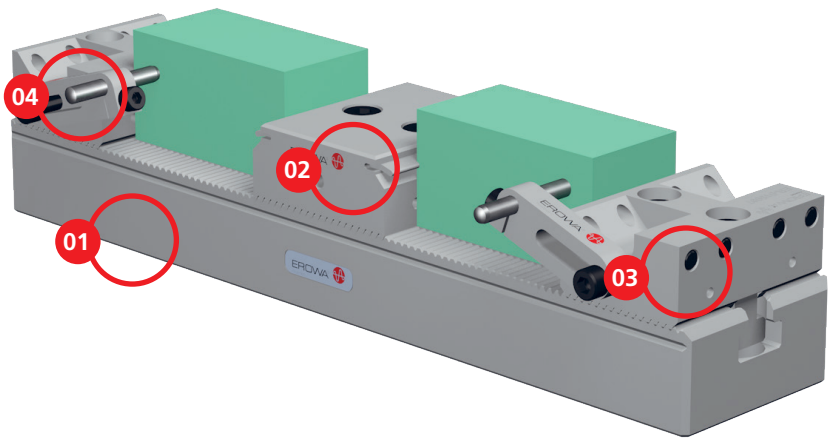


Applications

Handling

Manual / Loading facility / Robot

Function



01 | ClampSet Block Base
Can be fitted to all EROWA grid pallets or directly onto the machine table with a T-slot distance of R50.

02 | ClampSet Block N
The pull-down jaw in combination with the ClampSet standard block results in the ideal pull-down effect.

03 | ClampSet Stop
The lateral stop can be attached to every ClampSet jaw.

04 | ClampSet Block Stop
Adjustable lateral stop made of steel.

Technical data - ClampSet

	ClampSet Base 220	ClampSet Base 320
Clamping range	max. 126 mm	max. 225 mm
Material	steel, hardened, ground	

EROWA ClampSet in action

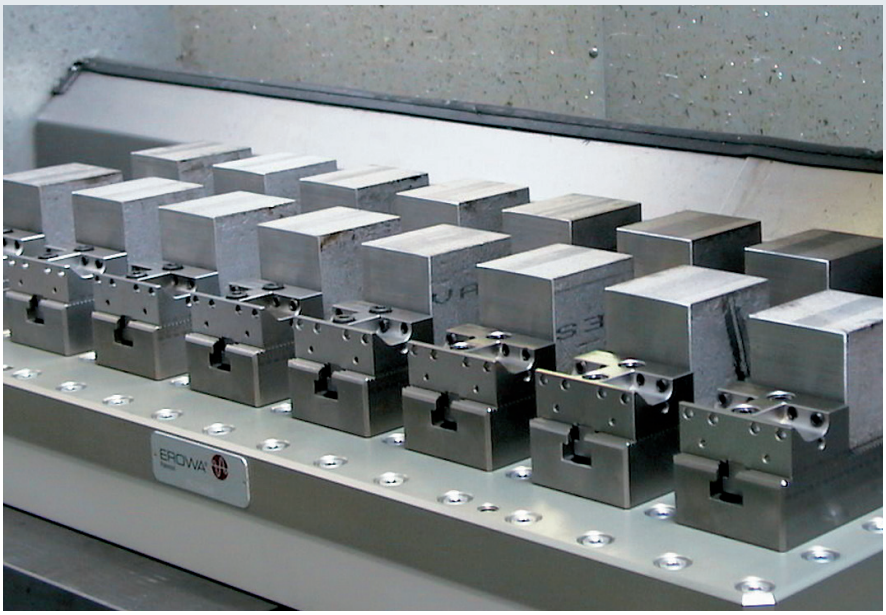
Modular, flexible, precise

Whether it´s drilling, milling, grinding or EDM, ClampSet will reduce set-up times.

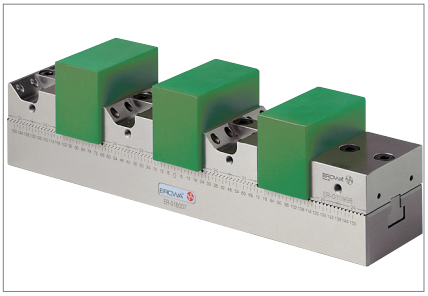
FACTS

- High clamping force
- Precise clamping of workpieces.
- Clamping range up to 225 mm.
- Wide selection of clamping elements
- Base rails in two different lengths (220 mm & 320 mm)

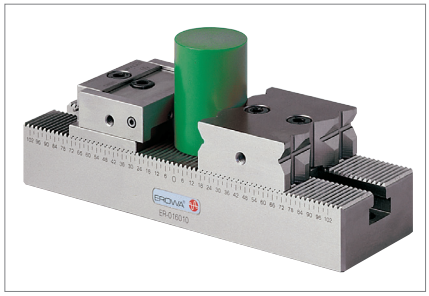




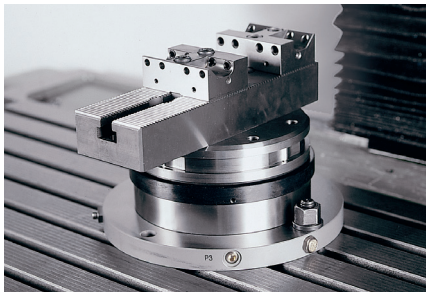
Base 220, ClampSet Standard Block and ClampSet Block F (hard jaw) to clamp blanks.



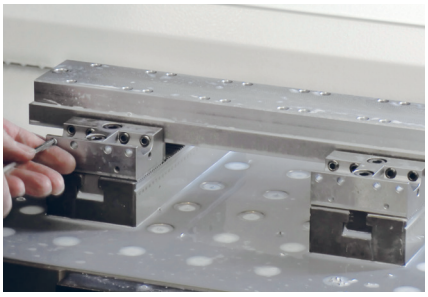
Base 320 with 3 ClampSet Standard Blocks and Block F for multiple fixtures.



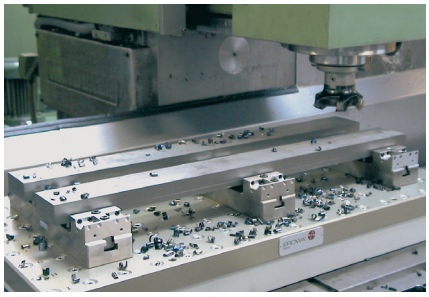
Base 220, ClampSet Slide and prismatic jaw to clamp various cylindrical parts, both horizontally and vertically.



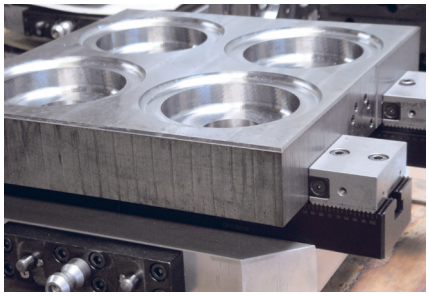
ClampSet vise on ITS pallet. Positioning to µ-accuracy and ready for use within seconds.



Short set-up times with flexible clamping elements: Two EROWA ClampSet vises on UPC grid pallet.

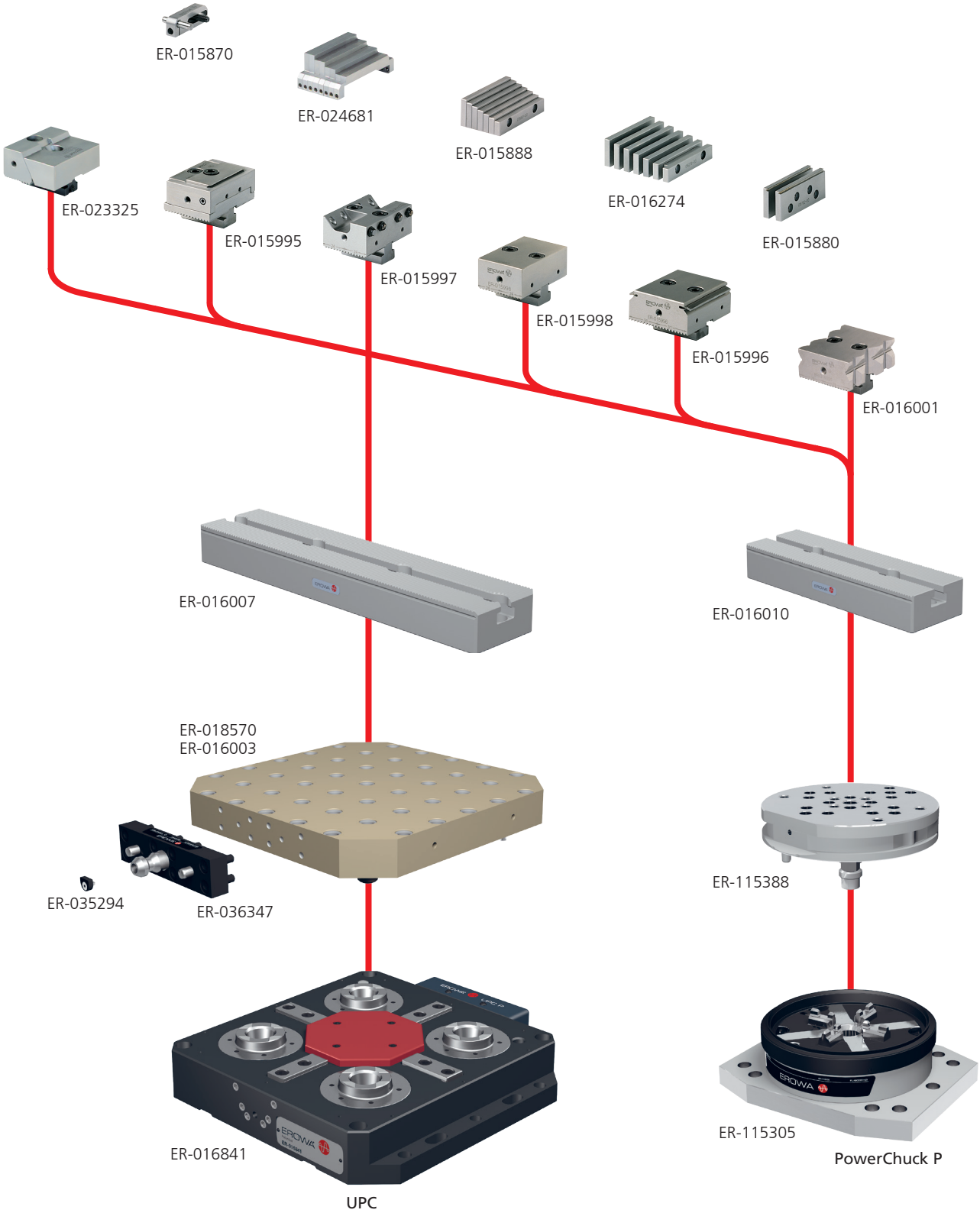


ClampSet also for long and big workpieces.



EROWA ClampSet

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA CLAMPSET

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For chip-removing processes

For EDM sinking

For WEDM

EROWA ClampSet

clamping elements

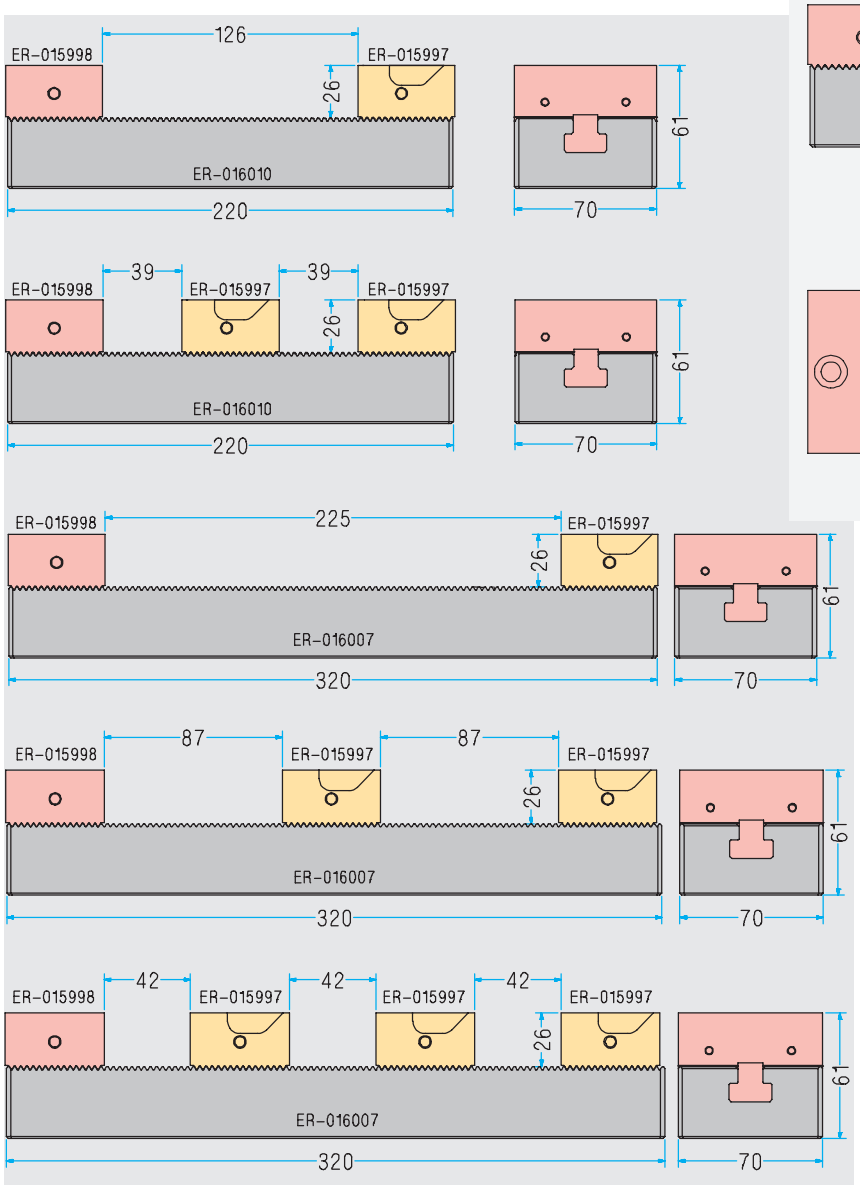
Application ClampSet Standard block

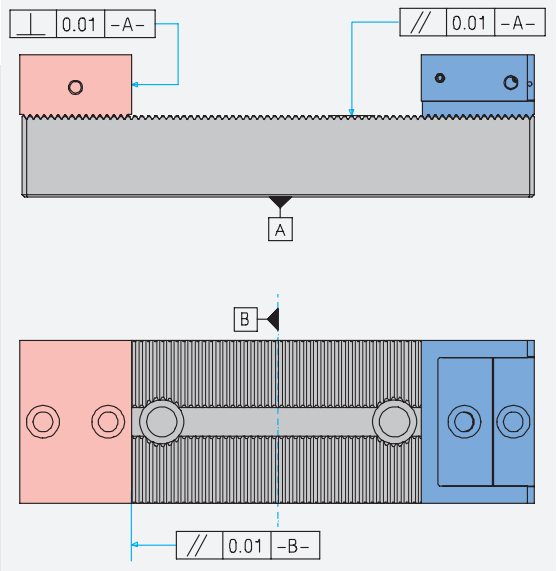
ER-015997	ClampSet Standard block
ER-015998	ClampSet Block F
ER-016010	ClampSet Base 220
ER-016007	ClampSet Base 320

ClampSet Standardblock Number of	Clamping power in kg ±10% at a torque of		
ball-pressure bolts	5 Nm	10 Nm	15 Nm
2	900	1750	2500
4	1450	2750	3900

For the sake of clamping precision and safety, it is very important to tighten the bolts with a torque wrench.

Data given are guideline values, which may be impaired by dirt and other environmental influences.



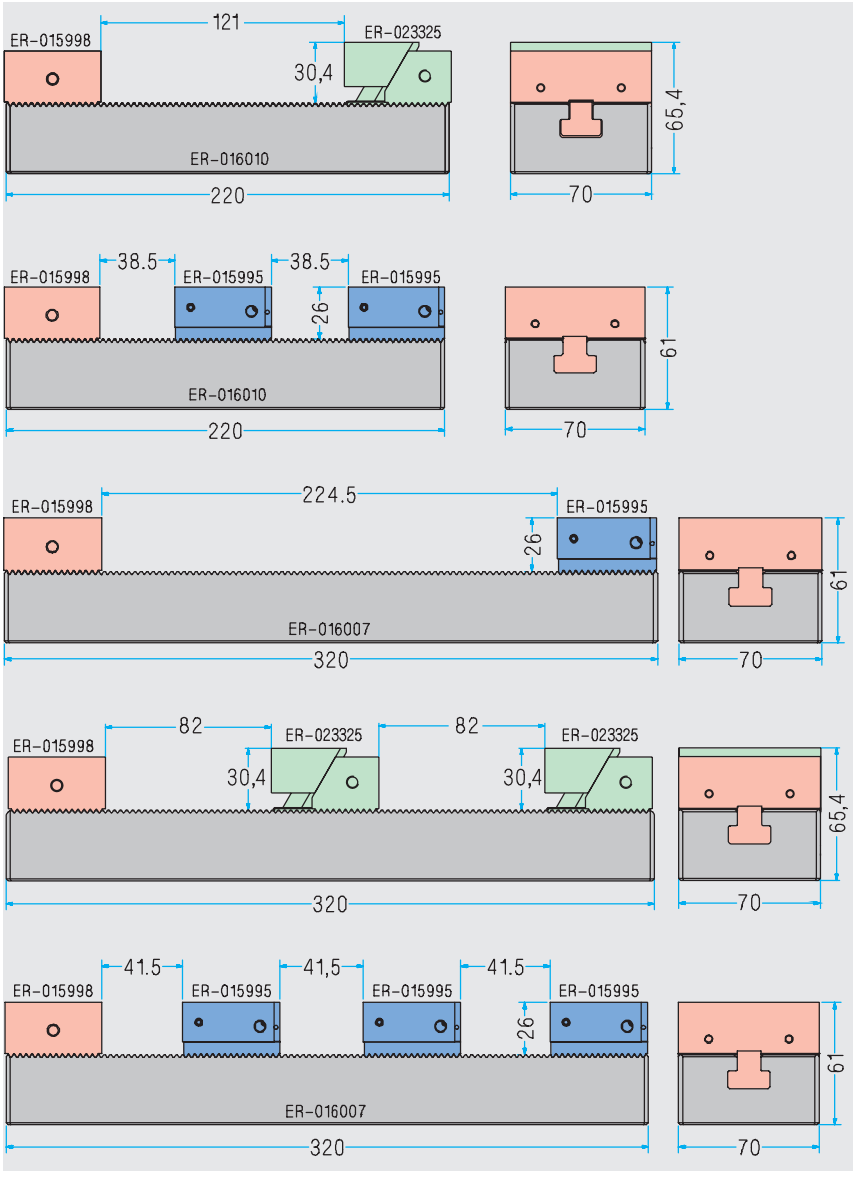


Position tolerances

Application ClampSet Slide / Jaw

ER-015995	ClampSet Slide
ER-023325	ClampSet Jaw
ER-015998	ClampSet Block F
ER-016010	ClampSet Base 220
ER-016007	ClampSet Base 320

	Clamping power in kg ±10% at a torque of			
	5 Nm	10 Nm	15 Nm	20 Nm
ClampSet Slide	250	500	750	1000
ClampSet Jaw	300	600	900	1200

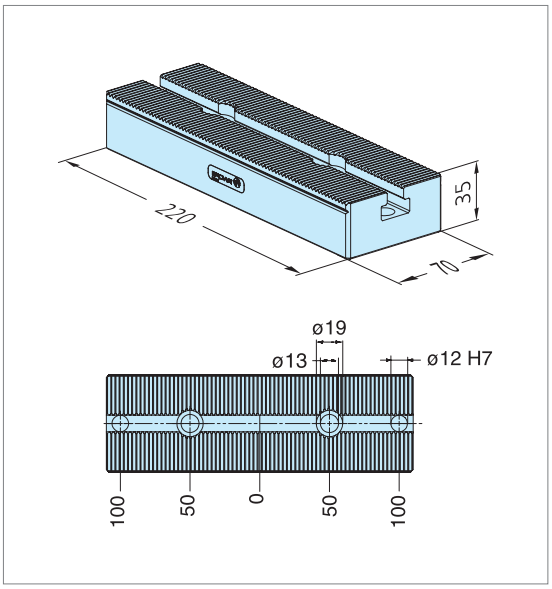


EROWA ClampSet

Base

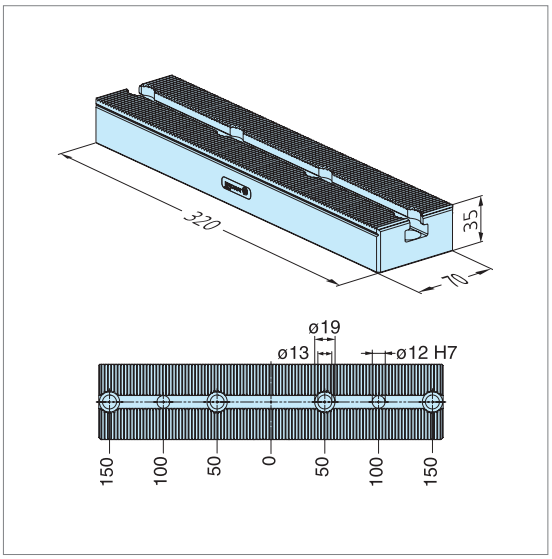
ER-016010 ClampSet base 220

Version	Steel, hardened, ground. Clamping element carrier with 3 mm positioning grid.
Application	On ITS pallets 148 with 25 mm grid and on UPC pallets with 50 mm grid, as a base for the various ClampSet clamping jaws.
Mounting	On all EROWA grid pallets.
Note	R40 subject to consultation.



ER-016007 ClampSet base 320

Version	Steel, hardened, ground. Clamping element carrier with 3 mm positioning grid.
Application	On UPC grid pallets R50 or Cube R50, as a base for the various ClampSet clamping jaws.
Mounting	On EROWA UPC and MTS grid pallets R50 or Cube R50.
Note	R40 subject to consultation.

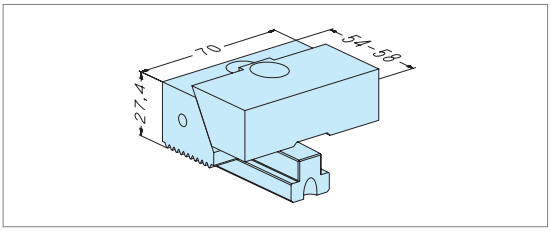


EROWA ClampSet

Clamping elements

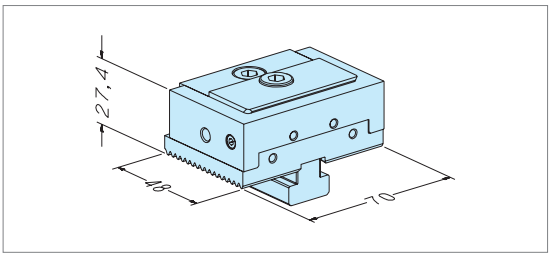
ER-023325 ClampSet Jaw

Version	Steel, hardened, including tenon block for attachment.
Application	To clamp workpieces with machined surfaces.
Mounting	On ClampSet Base 320 or 220 with tenon block supplied.
Note	Favorably priced alternative to the Clamp Set Slide. The fixed stop side enables multiple fixtures.



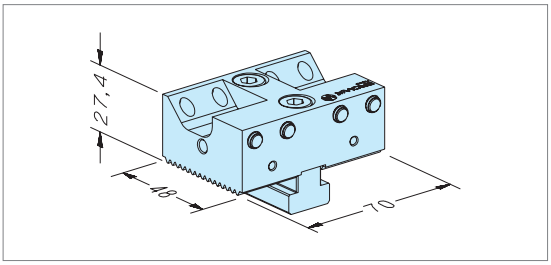
ER-015995 ClampSet Slide

Version	Steel, hardened, incl. T-nut for fixation.
Application	To clamp workpieces with machined sides.
Mounting	On ClampSet Base 320 or 220 with the T-nut supplied.
Note	Fixed stop side for the multiple fixture of machined workpieces. The precision clamping jaw in the ClampSet system.



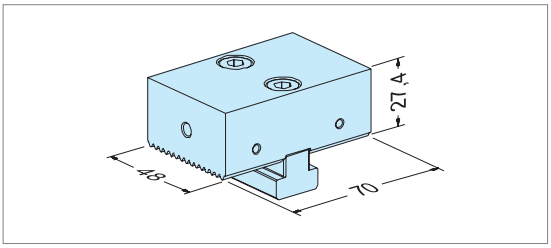
ER-015997 ClampSet standard block M8

Version	Steel, hardened, incl. T-nut for attachment.
Application	The blanks are clamped with the M8 stud bolts. A clamping jaw in EROWA´s modular vise system.
Mounting	On ClampSet Base 320 or 220 with the T-nut supplied.
Note	The fixed stop side allows for multiple fixtures.



ER-015998 ClampSet block F

Version	Steel, hardened, incl. T-nut for attachment.
Application	Hard jaw in EROWA´s modular vise system.
Mounting	On ClampSet 320 or 220 with the T-nut supplied.

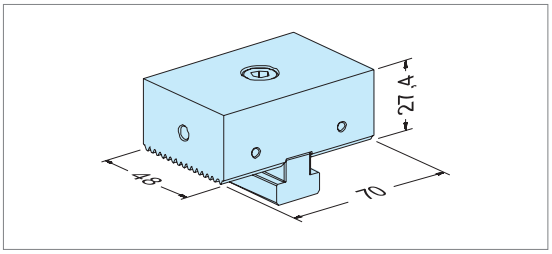


EROWA ClampSet

Clamping elements

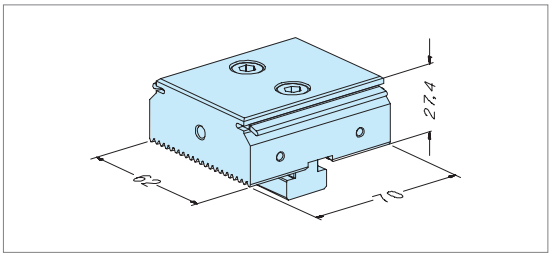
ER-015999 ClampSet block S steel soft

Version	Steel, soft, incl. T-nut for attachment.
Application	The soft block serves to produce a workpiece-specific hard jaw.
Mounting	On ClampSet 320 or 220 with the T-nut supplied.



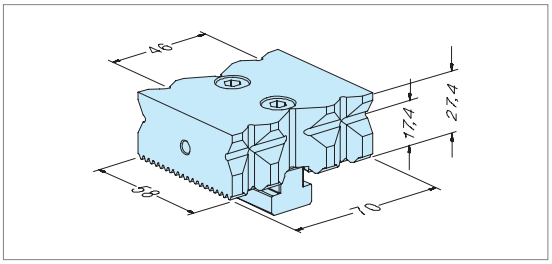
ER-015996 ClampSet block N pull-down jaw

Version	Steel, hardened, incl. T-nut for attachment.
Application	To clamp blanks. Hard jaw in EROWA´s modular vise system.
Mounting	On ClampSet 320 or 220 with the T-nut supplied.
Note	Pull-down function when clamping.



ER-016001 ClampSet block Prisma

Version	Steel, hardened, incl. T-nut for attachment.
Application	To clamp round parts. Hard jaw in EROWA´s modular vise system.
Mounting	On ClampSet 320 or 220 with the T-nut supplied.

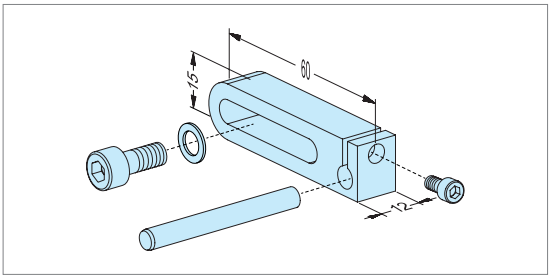


EROWA ClampSet

Auxiliary equipment

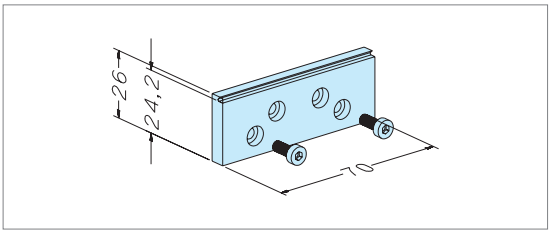
ER-099201 MillStop

Version	Adjustable stop made of steel.
Application	Lateral stop on any CleverClamp clamping or stop element.
Mounting	Use the bolts supplied to fit it laterally to the CleverClamp clamping or stop elements of your choice.



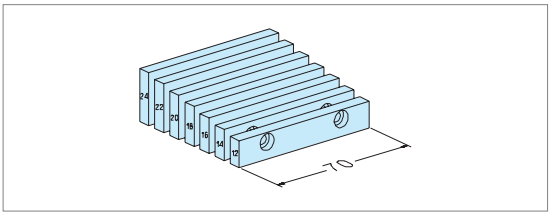
ER-015880 ClampSet Support N 1 pair

Version	Steel, hardened, ground, with bolts.
Application	Pull-down element for ClampSet Slide and ClampSet Block. To clamp workpieces of aluminum and non-ferrous heavy metal.
Mounting	To ClampSet Slide and ClampSet Block with the bolts supplied.
Note	Also suitable for clamping workpieces of low height.



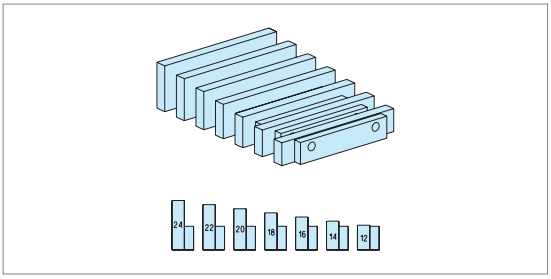
ER-015888 ClampSet Support Kit 7 parts, grinded supports

Version	Set of 7 ground supports; 12, 14, 16, 18, 20, 22 and 24 mm high; with bolts.
Application	Supports for the height positioning of workpieces.
Mounting	To the various ClampSet Blocks with the bolts supplied.



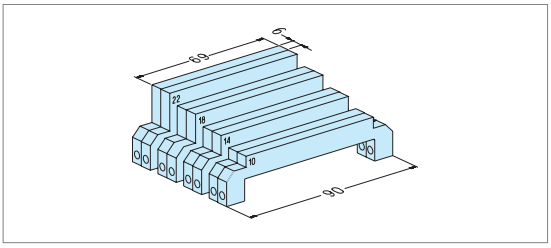
ER-016274 ClampSet support kit 7 parts, stepped

Version	Set of 7 ground, offset supports, with bolts.
Application	Supports for the height positioning of workpieces.
Mounting	To ClampSet Slide with the bolts supplied.



ER-024681 ClampSet support kit set grinded supports

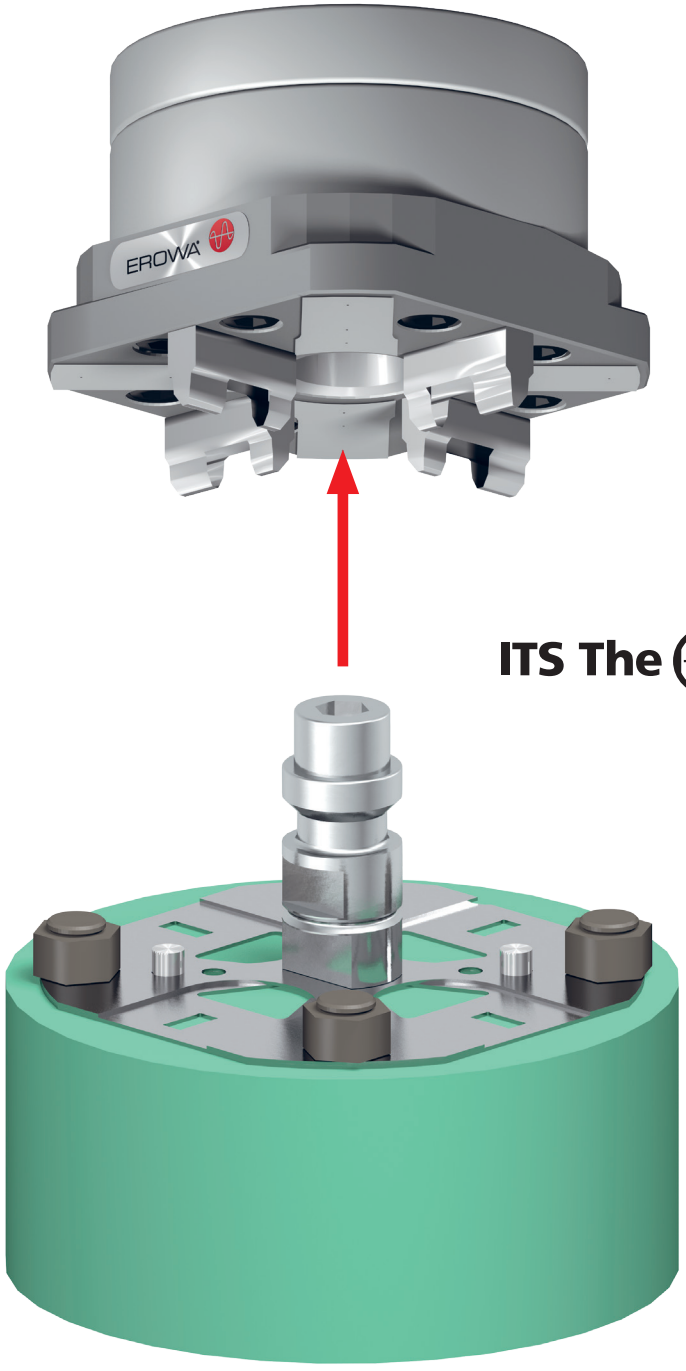
Version	Set of 8 ground supports, heights 10, 14, 18 and 22 mm.
Application	Support for the height positioning of workpieces.
Mounting	The supports are clamped on the base from above.



EROWA ITS chuck

The versatile tooling system for the entire production chain

EROWA's ITS chuck operates on a principle that is as simple as it is ingenious. It holds both tools and workpieces with equal precision and with a high degree of repeatability. Its applications are so numerous that it forms the basis for a well thought-out modular tooling system.

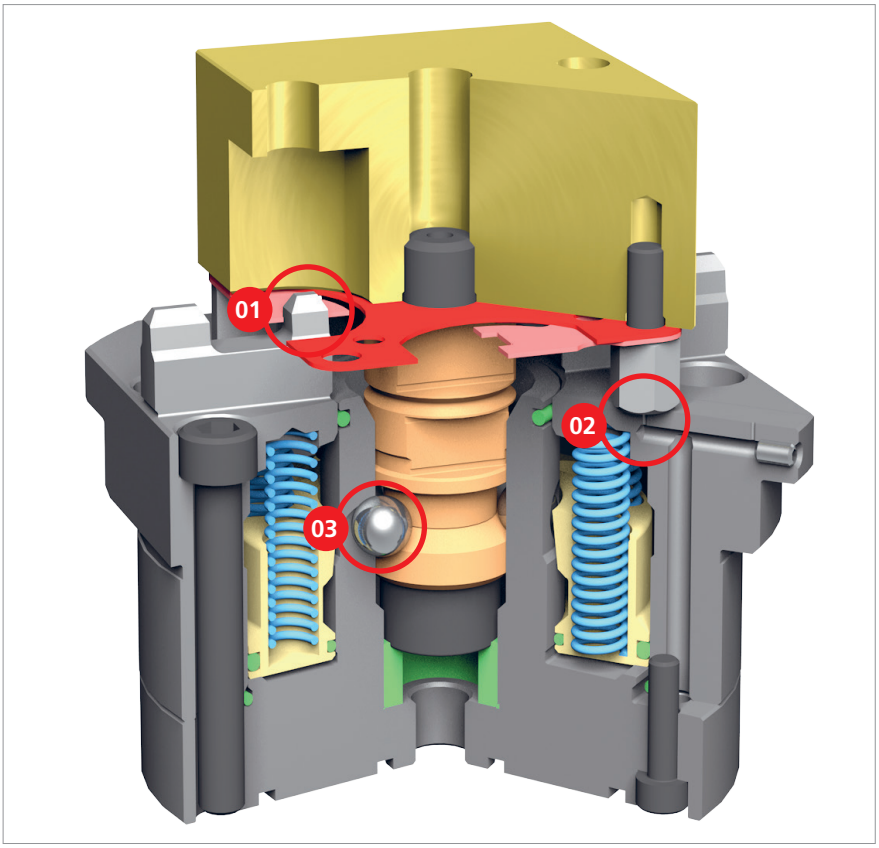


Applications

Handling

Manual / Loading facility / Robot

Function



01 | Precision
The important effect: the deflecting plate wipes off the dirt. The centering plate and the prism only touch on one line. In this way, a wide variety of EROWA workpiece carriers are clamped with the highest degree of precision and positioning.

02 | Cleaning
The support surfaces of the supporting feet are cleaned during the clamping process. This also works when the chuck is submerged in liquid.

03 | Ball-lock
The reliable clamping mechanism with self-locking ball lock: it generates a clamping power of up to 7,000N and does not unlock in the event of a pressure failure.

Technical data - ITS chuck

	ITS chuck, pneumatic
System sizes	50 and 100
Repeatability	< 0.002 mm
Indexing	4 x 90°
Clamping power	2,500 N - 7,000 N
Recommended workpiece sizes	up to 140 x 140 x 140 mm
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Operation	with control unit or compressed-air gun

EROWA ITS chuck in action

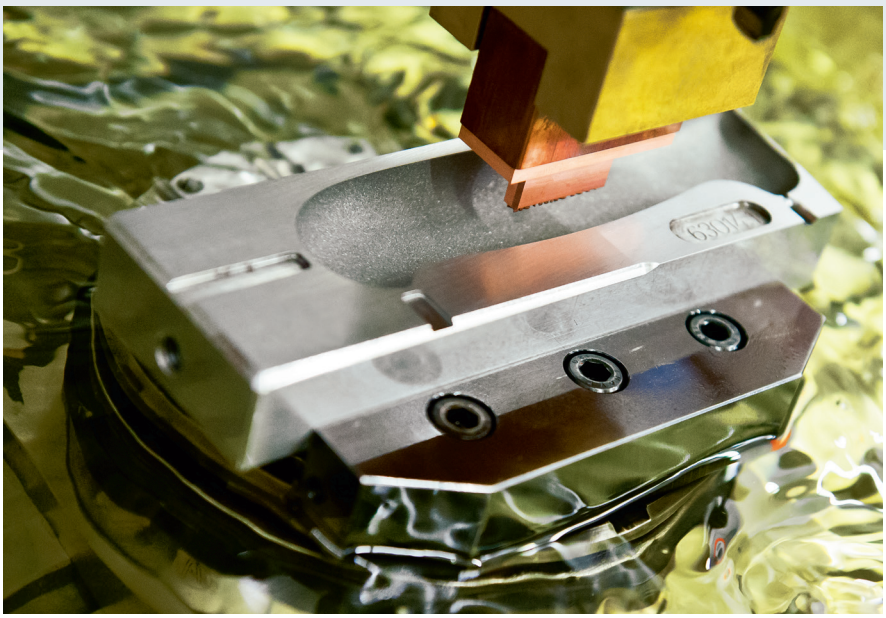
A suitable version for each job

The applications of ITS chucks are as numerous as the jobs to be done in precision mechanics and in tool and mold manufacturing. This is why we offer such a diverse variety of chucks.

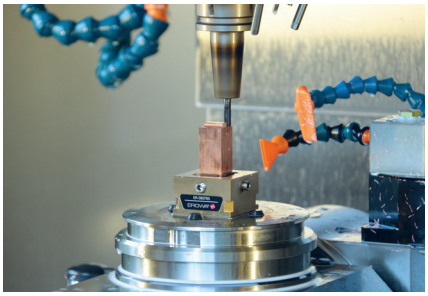


FACTS

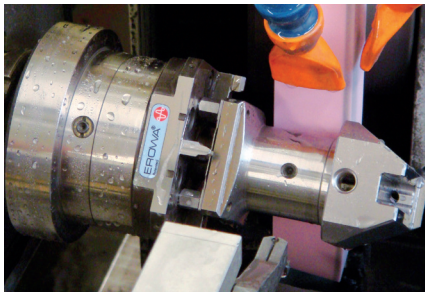
- Repeatability < 0.002 mm
- Workpiece carriers are divisible round 4 x 90°
- Manual or automatic operation
- Air-cleaned Z-supports
- Can be automated
- Sealing rings provide complete protection against the penetration of cooling water and chips



Precision and reliability in the machine tank and at the quill of the EDM center. The workpiece holders are divisible 4 x 90°. The repeatability of 0.002 mm guarantees universal and precise positioning.



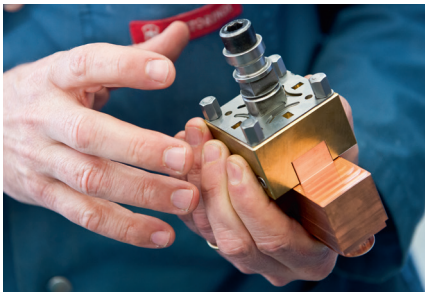
EROWA's ITS chucks can be universally employed on all machines.



The workpieces/electrodes are palletized on the same system carrier throughout their progress through the entire production chain (turning, milling, grinding, EDM, WEDM and measuring and presetting stations).



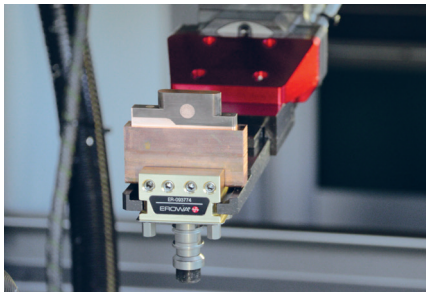
EROWA set-up and presetting station with integrated ITS chuck.



Resetting without any loss of time thanks to a fixed reference position: the chucking spigot and the centering plate guarantee precise positioning and powerful clamping of the electrode holder.



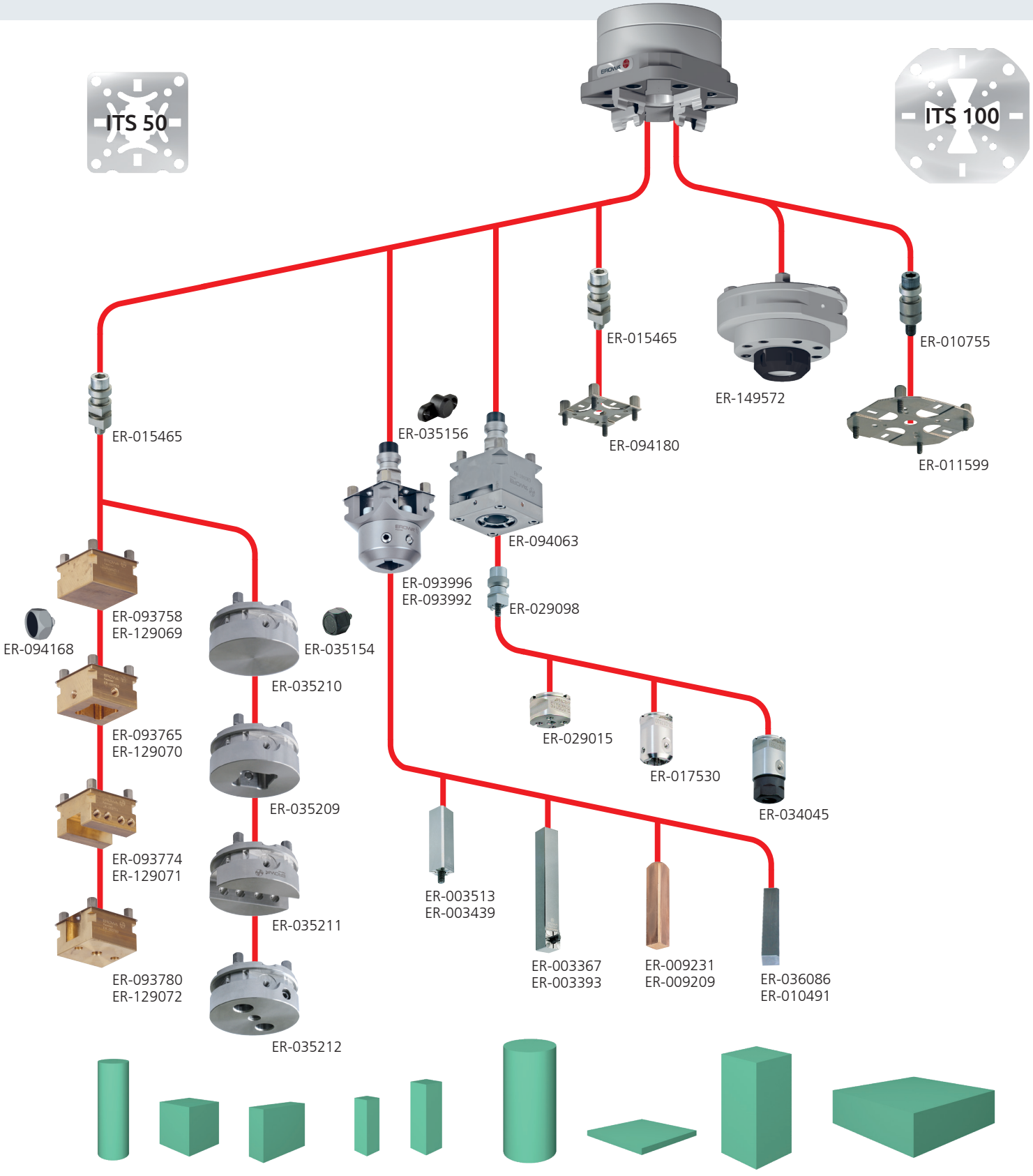
The sealing plate of the EROWA ITS 50 holder C and the sealing ring provide a form-fit seal. This ensures that the chuck is optimally protected against contamination and the penetration of liquids.



Use marginal and night hours by loading/unloading the EDM center automatically. The entire EDM tooling system can be automated. A wide range of EROWA loading stations provides a suitable solution for every application.

EROWA ITS

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
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15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA ITS

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For chip-removing processes

For EDM sinking

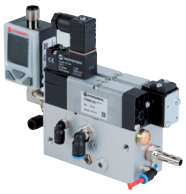
For WEDM

EROWA ITS

Chucks

ITS Chucks: Pneumatically activated


ER-001846


ER-070445


ER-008988



Quill chucks


ER-007523


ER-007521


ER-007580

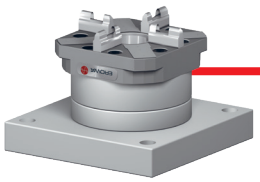
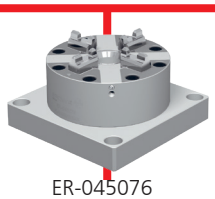


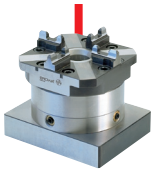
Table chucks


ER-037970


ER-035519


ER-045076

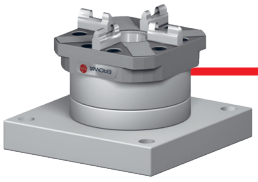

ER-007604


ER-012299


ER-058250


ER-012297


ER-007612



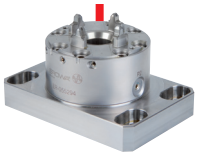
Corrosion-resistant table chucks


ER-043123


ER-043124


ER-082885


ER-048519

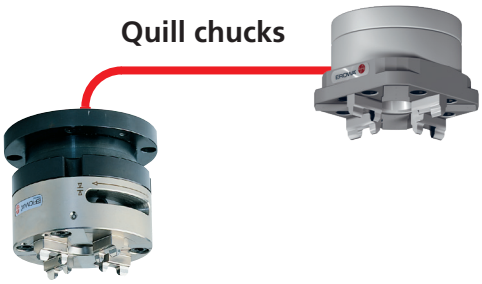

ER-055294


ER-011803


ER-008186

ITS Chucks: Mechanically activated

Quill chucks

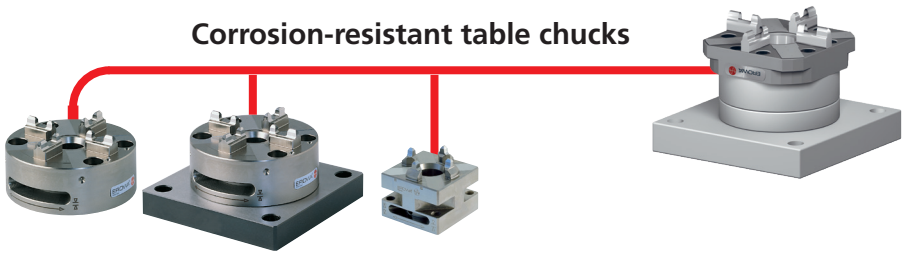


ER-038826

ITS - THE ORIGINAL

Tens of thousands in successful operation and patented worldwide since 1984.

Corrosion-resistant table chucks



ER-036345 ER-038824 ER-034387

EROWA ITS chucks

pneumatic, quill, can be automated

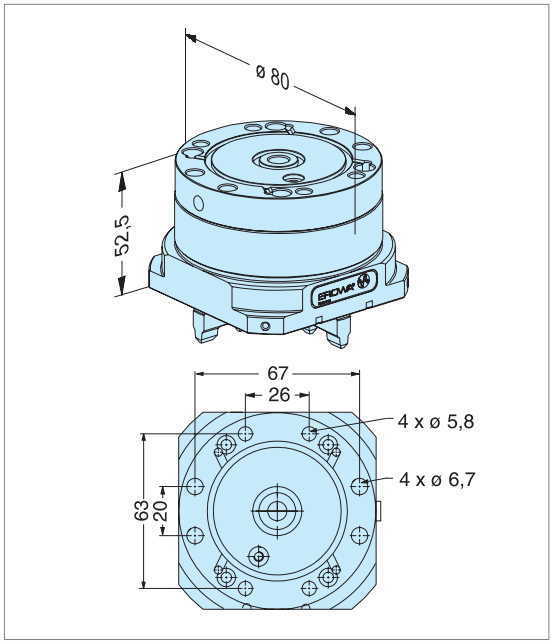
Technical data	Chuck	Chuck «NSF» (with reclamping)
Repeatability	< 0.002 mm	< 0.002 mm
Indexing	4 x 90°	4 x 90°
Clamping	with spring tension (clamped without pressure)	
Opening pressure (pneumatic)	min. 6 bar	min. 6 bar
Reclamping pressure (pneumatic)		min. 6 bar

ER-007521 Rapid-action chuck automatic



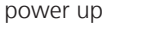


Version	Standard type. Clamping power up to 2,500 N.
Connections	On back.
Application	EDM sinking machines with automatic electrode change, machine tools with automatic loading, production lines.

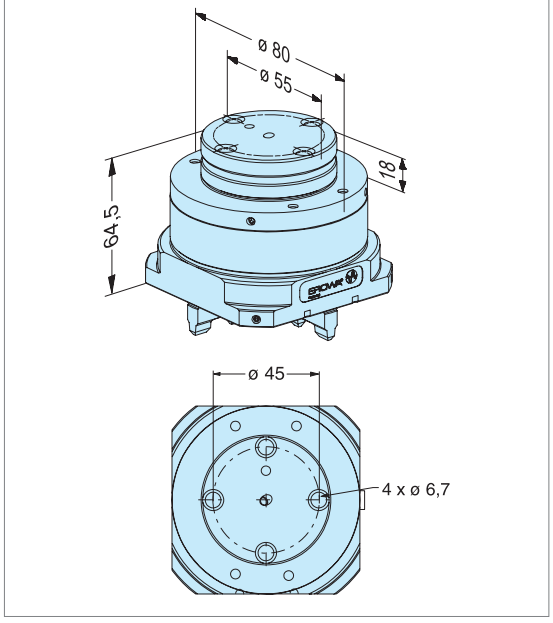


ER-007523 Rapid-action chuck automatic with shoulder for flushing





Version	Shoulder for flushing connection. Clamping power up to 2,500 N.
Connections	On back.
Application	EDM sinking machines with automatic electrode change.

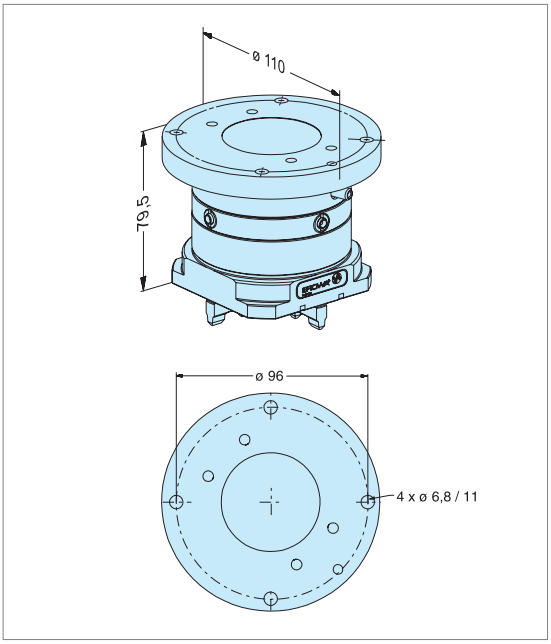


EROWA ITS chucks

pneumatic, quill, manual

ER-007580 Manual rapid-action chuck

Version	With flange ø 110 mm. Clamping power up to 2,500 N.
Connections	Hose coupling fitting on side.
Application	Retrofitting on EDM sinking machines.



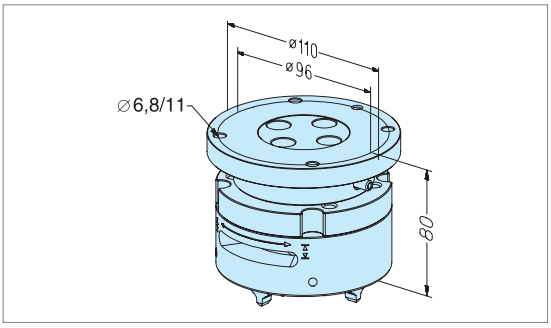
EROWA ITS chucks

mechanical, quill

Technical data	ITS chuck, mechanical
Repeatability	< 0.002 mm
Indexation	4 x 90°
Operation	manually with clamping lever

ER-038826 QuickChuck 100 P / R

Version	On base plate ø 110mm with rotatable flushing connection.
To fit	With 4 M6 bolts.
Application	On EDM machines with quill rotation.
Please note	Clamping power of up to 10,000 N.

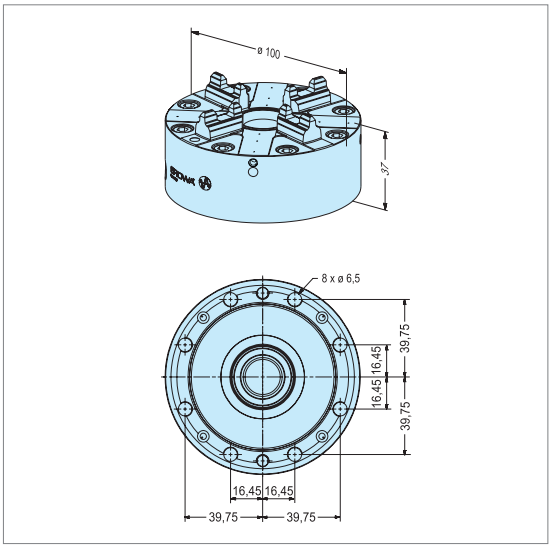


EROWA ITS chucks

pneumatic, table, able to automate

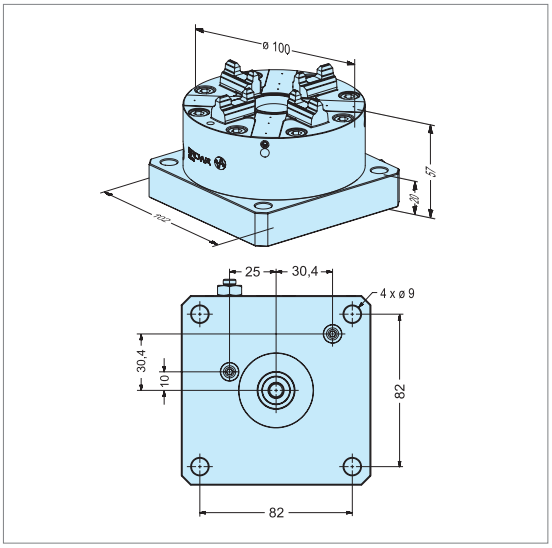
ER-037970 ITS Chuck 100 P without base plate

Version	Steel, hardened.
Clamping power	6,000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	For receiving pallets ø 115 / ø 148, electrode holders, pallets PM56, PM60 and PM85 Precise.



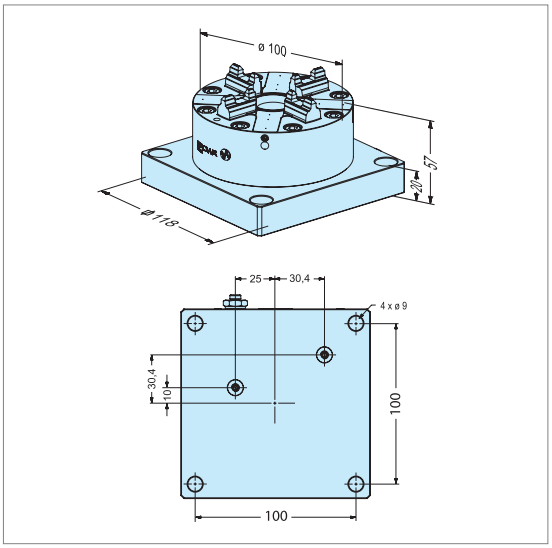
ER-035519 ITS Chuck 100 P 102 x 102

Version	Steel, hardened.
Clamping power	6,000 N.
Connections	On the side or at the rear, with two lines.
Operation	With control unit or with air jet.
Application	For receiving pallets ø 115 / ø 148, electrode holders, pallets PM56, PM60 and PM85 Precise.



ER-045076 ITS Chuck 100 P 118 x 118

Version	Steel, hardened.
Clamping power	6,000 N.
Connections	Laterally or at the rear, with two lines.
Operation	With control unit or compressed-air jet.
Application	For receiving pallets ø 115 / ø 148, electrode holders, pallets PM56, PM60 and PM85 Precise.

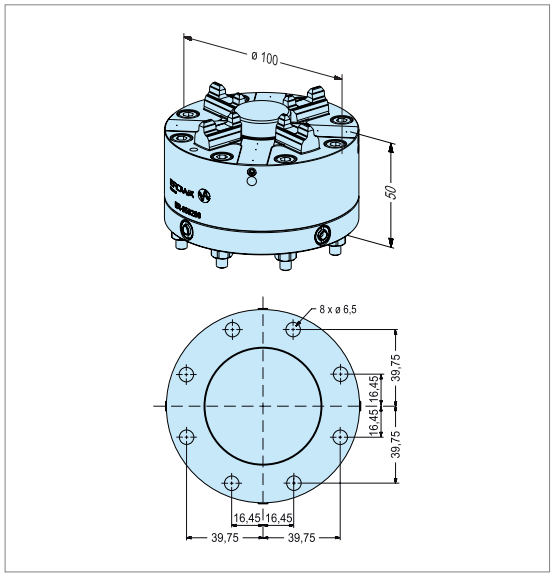


EROWA ITS chucks

pneumatic, table, manual

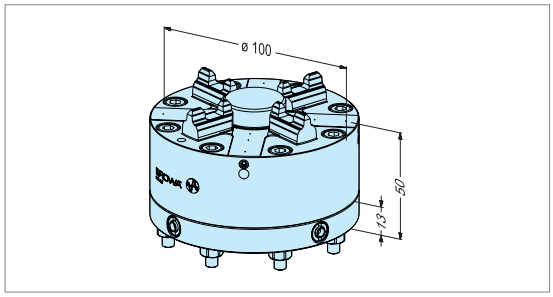
ER-058250 ITS Chuck 100 P with base plate ø100

Version	Steel, hardened, with P-profile.
Clamping power	6,000 N.
Connections	Air valves, lateral.
Operation	With air gun.
Application	To hold pallet ø 115 / ø 148 and pallets PM56, PM60, PM85 Precise.



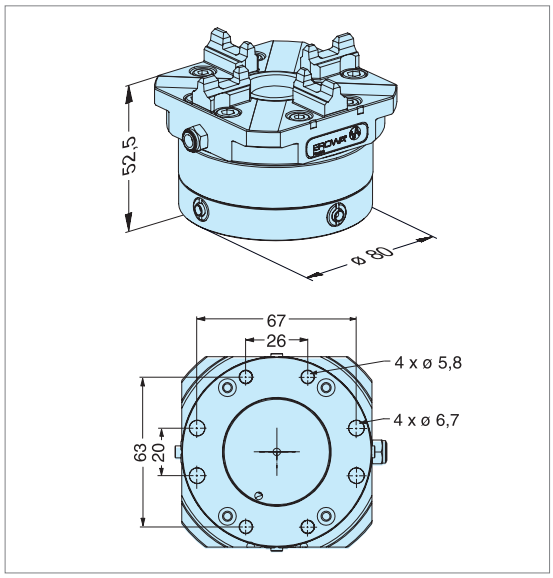
ER-082885 ITS Chuck 100 P Inox with base plate ø 100

Version	Steel,stainless, hardened, with P-profile.
Clamping power	5,000 N.
Connections	Air valves, lateral.
Operation	With air jet.
Application	To hold pallet ø 115 / ø 148 and pallets PM56, PM60, PM85 Precise.



ER-007604 Manual rapid-action chuck NSF

Version	NSF = increased clamping power up to 7,000 N.
Connections	Pneumatic valves on side, flushing on back.
Application	Electrode fabrication general.
Note	To clamp pallets of ø 115 / ø 148, ø 72 and electrode holder 50. Pallets with P centering system are excluded.

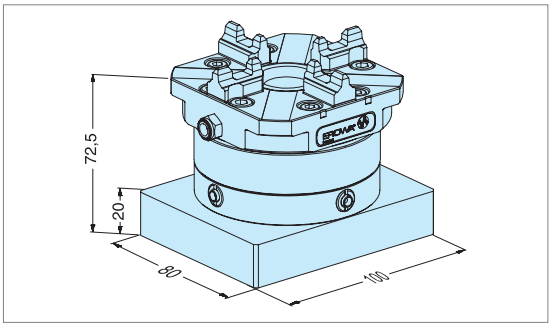


EROWA ITS chucks

pneumatic, table, manual

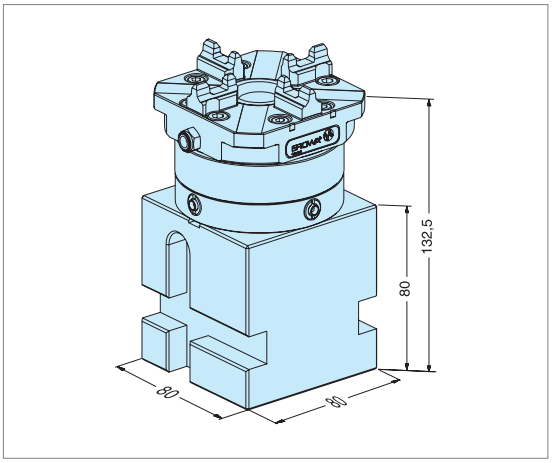
ER-012299 Rapid-action chuck NSF on plate

Version	NSF = increased clamping power up to 7,000 N.
Connections	Pneumatic valves on side.
Application	Electrode fabrication, e.g. on magnetic plate.
Note	To hold pallets ø 115 / ø 148, electrode holders, with the exception of pallets with a P-profile.



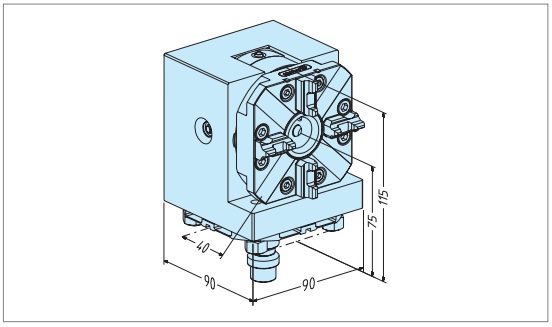
ER-012297 Rapid-action chuck NSF on block

Version	NSF = increased clamping power up to 7,000 N.
Connections	Pneumatic valves on side.
Application	Electrode fabrication. For use in horizontal and vertical positions.
Note	To hold pallets ø 115 / ø 148, electrode holders, with the exception of pallets with a P-profile.



ER-007612 Rapid-action chuck NSF on angle plate

Version	Standard type on type G angle plate. NFS = increased clamping power up to 7,000 N.
Connections	Pneumatic valves on the side, flushing through chucking spigot.
Application	To produce electrodes, and on EDM quill.
Note	To hold pallets ø 115 / ø 148, electrode holders, with the exception of pallets with a P-profile.



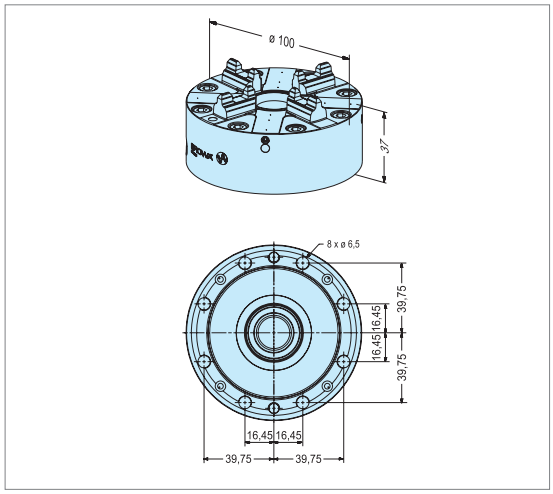
EROWA ITS chucks

pneumatic, table, able to automate, INOX

ER-043123 ITS chuck 100 P Inox without base plate



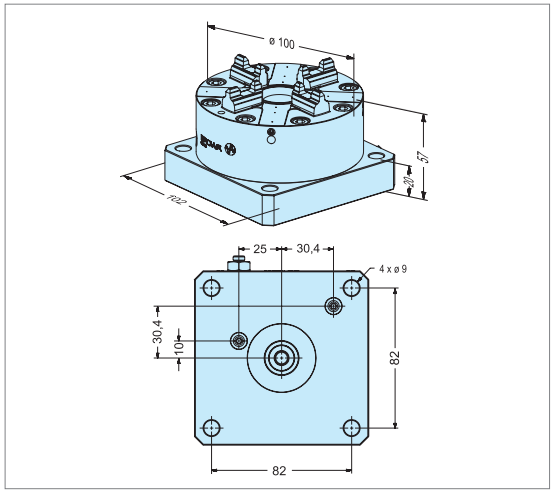
Version	Steel, hardened, INOX.
Clamping power	5,000 N.
Connections	At the rear, with two lines.
Operation	With control unit
Note	To hold pallets ø 115 / ø 148, electrode holders and pallets PM56, PM60 and PM85 Precise.



ER-043124 ITS chuck 100 P Inox 102 x 102



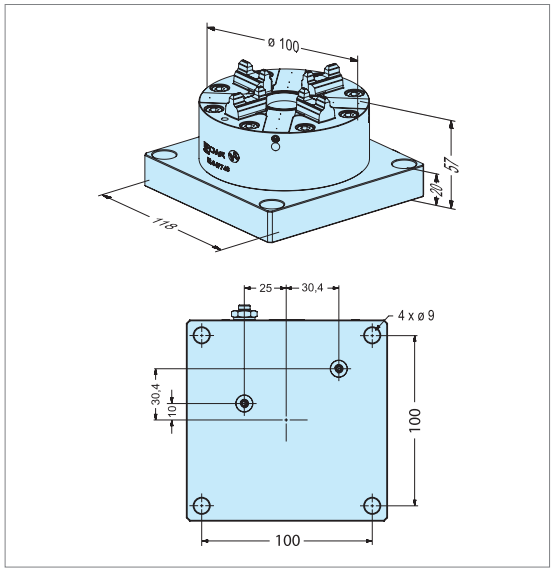
Version	Steel, hardened, INOX.
Clamping power	5,000 N.
Connections	On the side or at the rear, with two lines.
Operation	With control unit or with air jet.
Application	To hold pallets ø 115 / ø 148, electrode holders and pallets PM56, PM60 and PM85 Precise.



ER-047743 ITS chuck 100 P Inox 118 x 118



Version	Steel, hardened, stainless
Clamping power	5,000 N
Connections	Laterally or at the rear, with two lines.
Operation	With control unit or with compressed-air jet.
Application	To hold pallets ø 115 / ø 148, electrode holders and pallets PM56, PM60 and PM85 Precise.

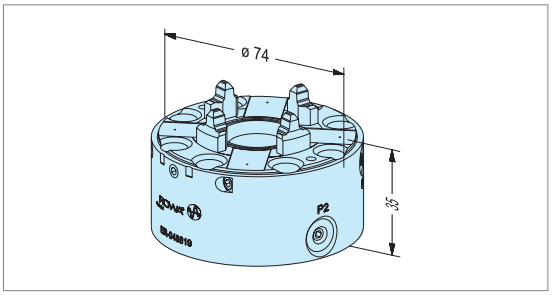


EROWA ITS chucks

pneumatic, table, able to automate, INOX

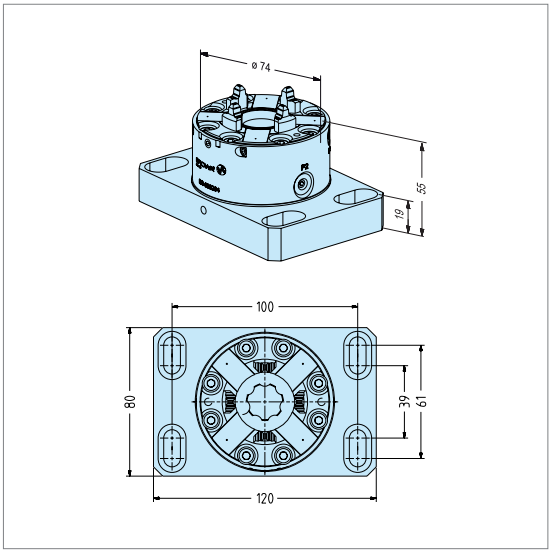
ER-048519 ITS chuck 50 Inox

Version	System size 50, corrosion-resistant.
Clamping power	2,800 N.
To be fitted	with 8 M5 bolts from the front.
Application	For fixtures produced by users themselves.
Note	Chuck can be operated manually or automatically. Air connections laterally or at the rear.



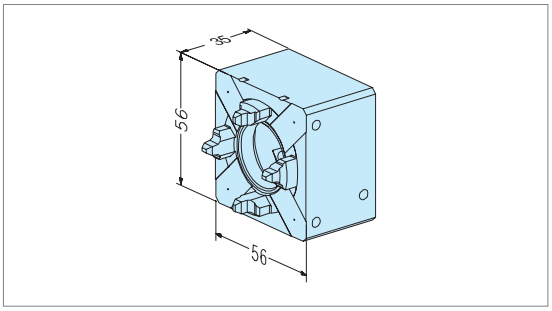
ER-055294 ITS Chuck 50 Inox with base plate 80 x 120

Version	System size 50, corrosion-resistant.
Clamping power	2,800 N.
Attachment	With 4xM8 bolts from the front.
Application	On milling and grinding machines and on EDM/WEDM centers.
Note	Chuck can be operated manually or automatically. Pneumatic connections on the side of the chuck.



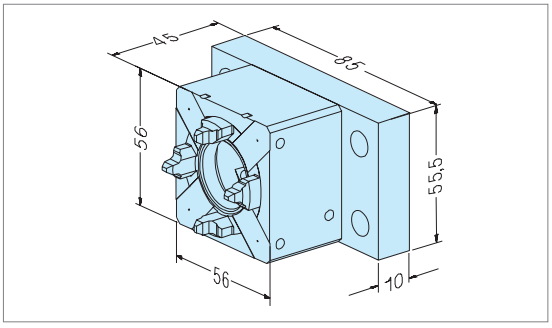
ER-011803 Chuck 50 RSA without base plate

Version	Chuck 50 RSA, automatic with pneumatic valve.
Clamping power	2,800 N.
Attachment	With 4 M6 bolts from the rear.
Application	ITS basis for the manual loading of ITS elements or for automatic operation.



ER-008186 Chuck 50 RSA with base plate 10 x 55.5 x 85

Version	Chuck 50 RSA, automatic, with pneumatic connection.
Clamping power	2,800 N.
Application	ITS basis for the manual loading of ITS elements or for automatic operation.



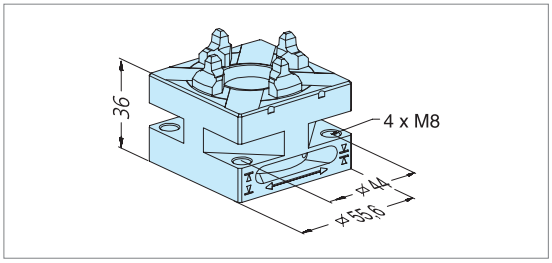
EROWA ITS chucks

manual, table, INOX

ER-034387 QuickChuck 50

INOX

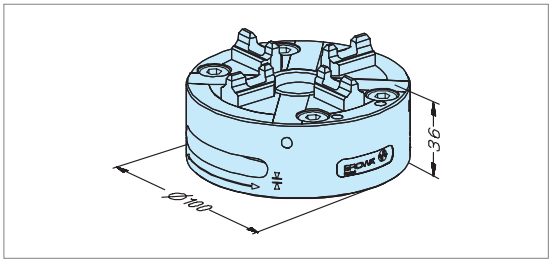
Version	System size 50, manual, corrosion resistant.
Attachment	4 x M8 from the rear or 4 x M6 stud bolts with nuts.
Application	On EDM/WEDM centers for light milling and grinding work. Max. revolutions on rotating axes 2,000 rpm.
Note	Clamping power up to 4,000 N.



ER-036345 QuickChuck 100 P

INOX

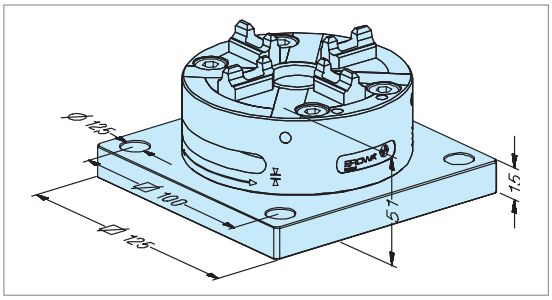
Version	System size 100, manual, stainless.
To fit	With 4 M8 bolts.
Application	On lathes, milling, grinding, EDM/WEDM machines, fixtures and dividing heads.
Please note	Clamping power of up to 10,000 N. Max. speed: 3,000 rpm.



ER-038824 QuickChuck 100 P with base plate

INOX

Version	System size 100, manual, stainless, with base plate.
To fit	With bolts or clamps.
Application	On milling, grinding and EDM machines.
Please note	Clamping power of up to 10,000 N.



ITS

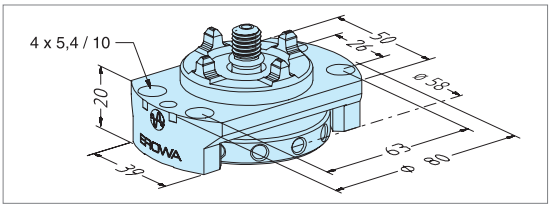
EROWA ITS chucks

Screw chuck, manual

Technical data	ITS screw chuck, manual
Repeatability	< 0.002 mm
Indexing	4 x 90°
Operation	manually with locking bolt

ER-007697 Screw chuck 50 D

Version	Only 20 mm overall height. For holders of system size 50.
Connections	Central flushing possible.
Application	Small lathes, on tapers, flanges, jigs and fixtures.

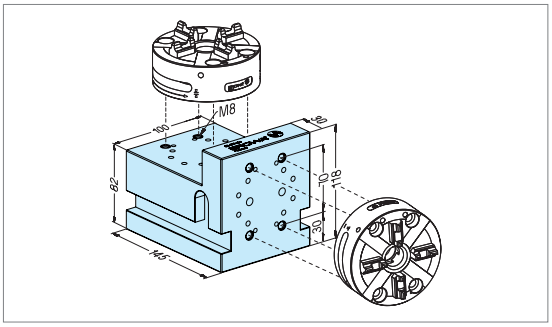


EROWA ITS chucks

Accessories

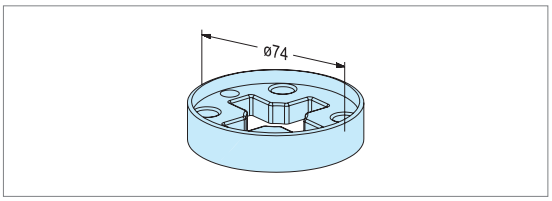
ER-019424 Universal square block

Version	Steel, hardened, corrosion-resistant.
Application	For attaching 1 or 2 chucks in horizontal and/or vertical position. Fits ITS chucks, QuickChuck 50, QuickChuck 100.
Note	Chucks not supplied.



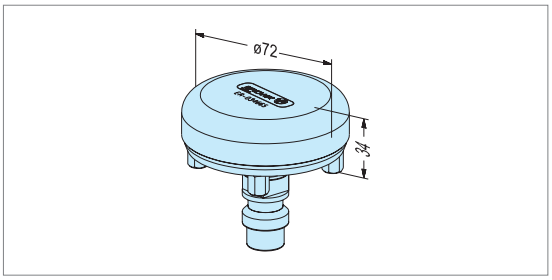
ER-032832 Sealing ring ITS chuck 50

Version	Plastic.
Application	Prevents penetration of chips and dirt into the ITS Chuck 50 by application of EROWA Holders ø 72.



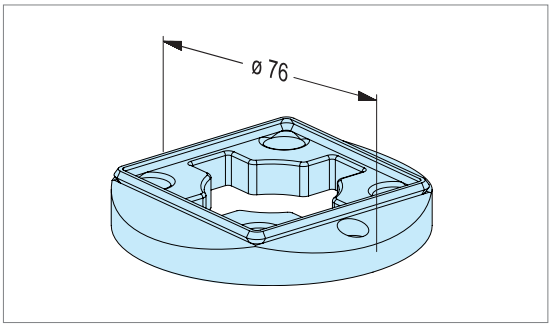
ER-034665 Cover ITS chuck 50

Version	Aluminum anodized. Without centering plate.
Application	Prevents penetration of chips and dirt into the ITS Chuck 50 in combination with the seal ring ER-032832.



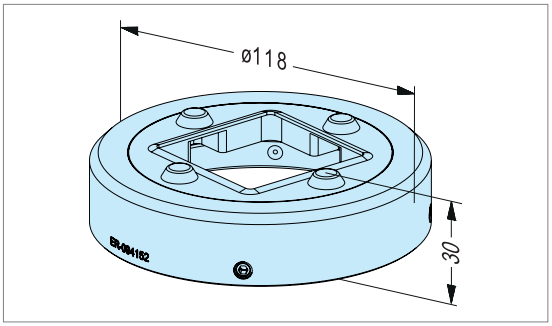
ER-094955 Sealing ring ITS 50 C for chuck 50

Version	Plastic.
Application	Prevents penetration of chips and dirt into the ITS Chuck 50 with application of EROWA HoldersITS50 C.



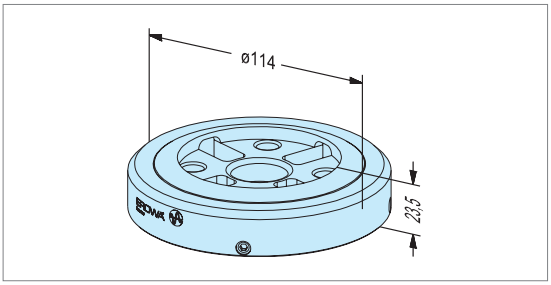
ER-094152 Sealing ring ITS50 C for ITS 100 P manual

Version	Aluminum anodized.
Application	Prevents penetration of chips and dirt into the QuickChuck 100 P or ITS chuck 100 P by application of EROWA electrode holders C.



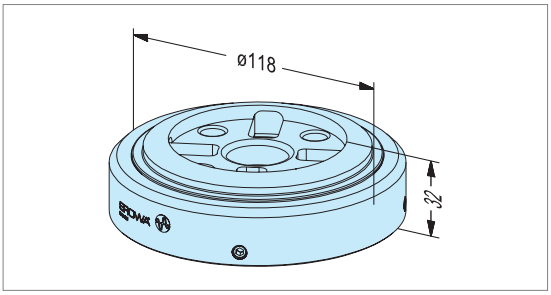
ER-034735 Seal Rapid Action Chuck / ø 72

Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the rapid action chuck by application of EROWA Holders ø 72.



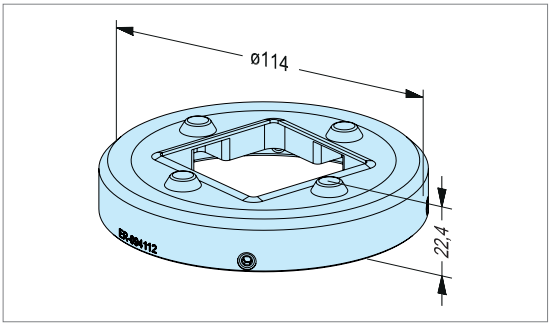
ER-035356 Sealing ring QuickChuck 100 P ø 72

Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the QuickChuck 100 P or ITS chuck 100 P by application of EROWA Holders ø 72.



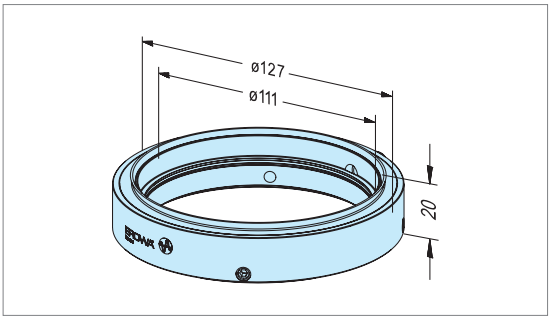
ER-094112 Sealing ring ITS50 C for SSF manual

Version Aluminum anodized.
Application Prevents penetration of chips and dirt into the rapid action chuck during machining of EROWA electrode holders C.



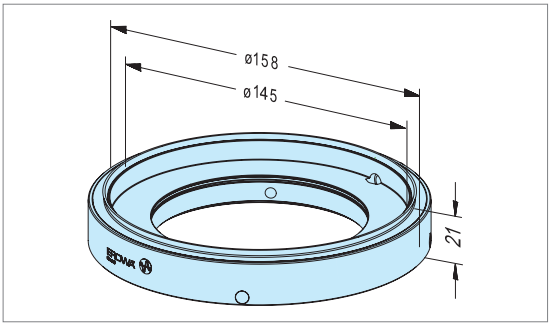
ER-046046 Chip guard ø 115 for QuickChuck 100 P / ITS Chuck 100 P

Version Aluminum, for pallets ø 115 mm.
Application Seals QuickChuck 100 P / ITS Chuck 100 P in use with pallets ø 115 mm against liquid and chips. Can be combined with ER-029313.



ER-046044 Chip guard ø 148 for QuickChuck 100 P / ITS Chuck 100 P

Version Aluminum, for pallets ø 148 mm.
Application Seals QuickChuck 100 P / ITS Chuck 100 P in use with pallets ø 148 mm against liquid and chips. Can be combined with ER-029313.

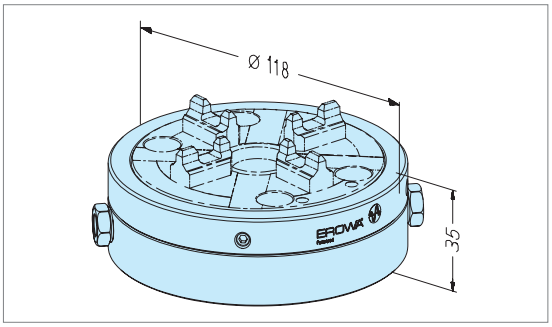


EROWA ITS chucks

Accessories

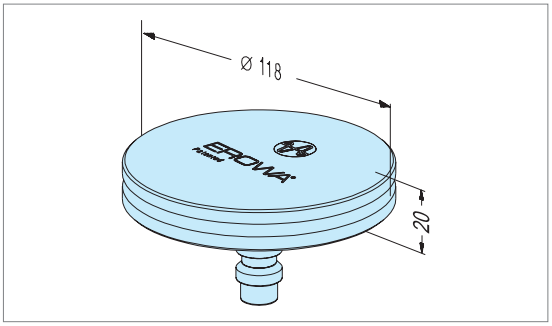
ER-029313 Chip guard for QuickChuck 100 P

Version Aluminum.
Application Seals the locking mechanism of the QuickChuck 100 P against the penetration of liquids and chips.



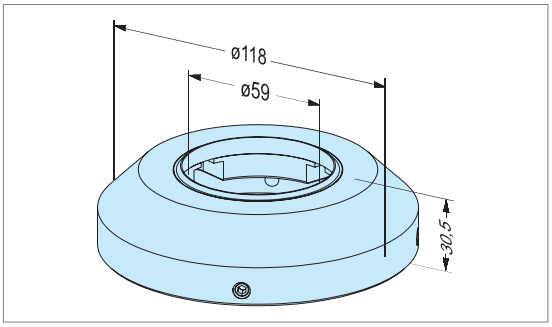
ER-007618 Cover for rapid-action chuck

Version Aluminum, without supports and centering plate.
Application To protect rapid-action chucks against dirt.



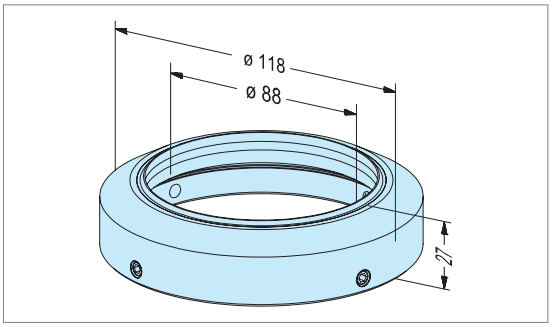
ER-041374 Sealing ring PM56

Version Aluminum, for pallets PM56.
Application Prevents dirt from penetrating into ITS chuck 100 P.



ER-034677 Sealing ring ITS 100 P / ø 85 PM85

Version Aluminum, for pallets PM85.
Application Prevents dirt from penetrating into ITS chuck 100 P.

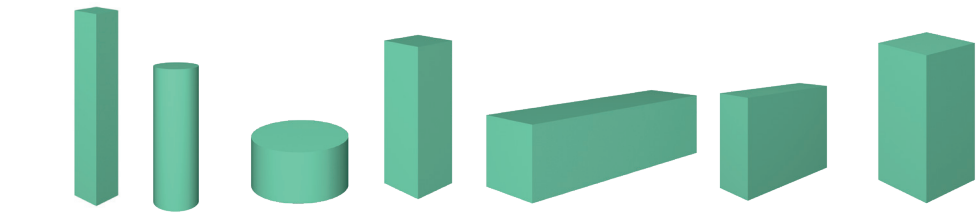


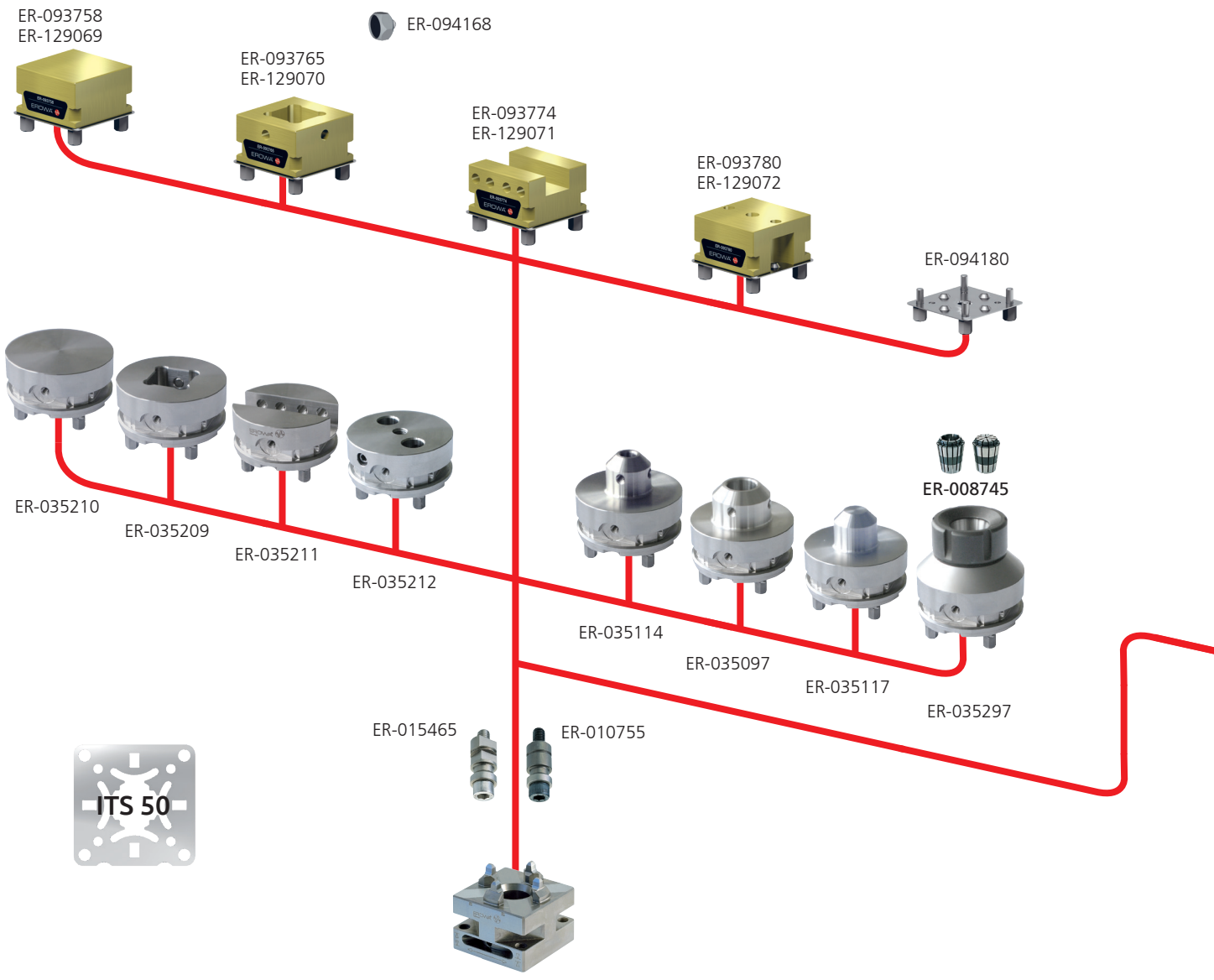
ITS

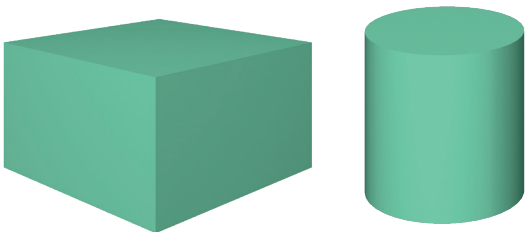
EROWA ITS workpiece carriers

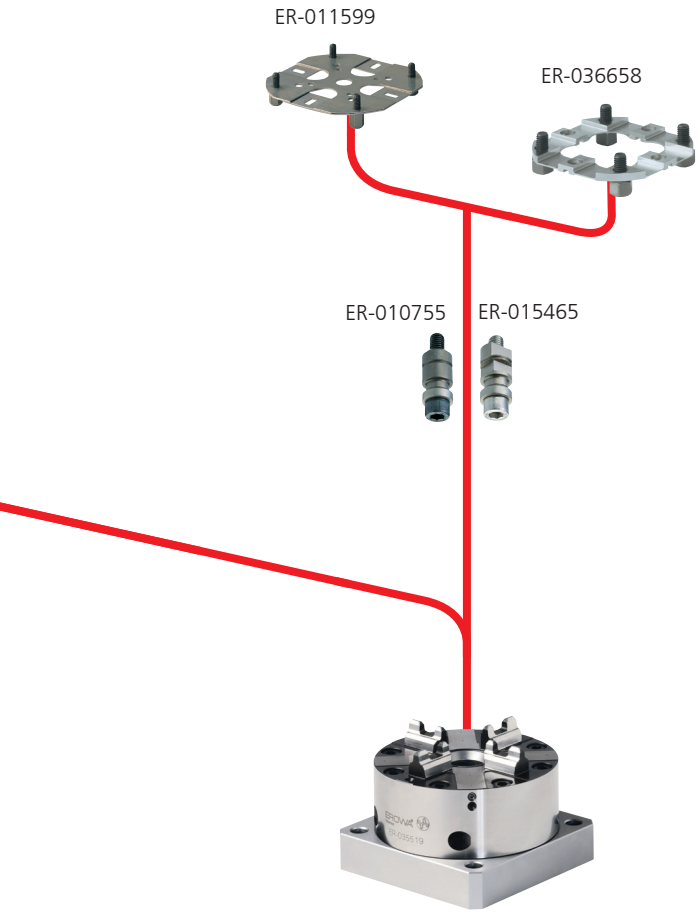
The components

Interchangeability starts with the workpiece carrier. Whether you use EROWA electrode holders, pallets or centering plates to be directly fitted to workpieces depends on the application. System interchangeability is guaranteed anyway.








ER-011599
ER-036658
ER-010755
ER-015465


ITS 100

EROWA ITS

Centering plates

The centering plates are the most cost-effective base for clamping electrodes. They are mounted directly onto the blanks. This way, jigs and fixtures are also ITS compatible. The hole pattern for mounting is simply drilled into the blank with a drilling template, or by means of an NC program.

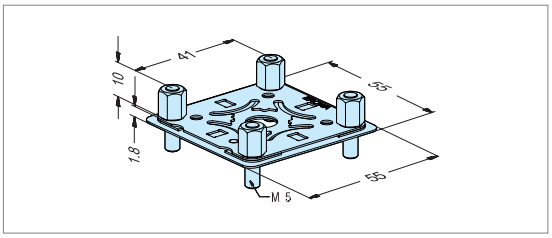
Technical data	ITS centering plates
Material	corrosion-resistant
System accuracy in chuck	< 0.002 mm
Versions:	
Centering plate 50	small electrode weights
Centering plate 100 M8	workpieces and electrodes
Centering plate G	workpieces, jigs and fixtures for chip-removal machining
Handling	with EROWA Handling systems or electrode changer.

ER-094180 **Centering plate 50 C 50 pieces**

ER-094181 **Centering plate 50 C 5 pieces**

INOX

Version	Corrosion-resistant, including sealing plate and 4 supporting feet each.
Application	Small electrode weights.
Mounting	Mounted directly on plane surface of blank.

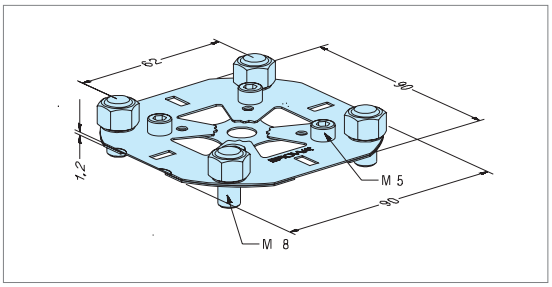


ER-011599 **Centering plate 100 M8 10 pieces**

ER-050195 **Centering plate 100 M8 1 unit**

INOX

Version	Corrosion-resistant, including 4 supporting feet M8 and 4 x M5 screws per plate.
Application	Workpieces and electrodes.
Mounting	Mounted directly on of blank plane surface of blank.



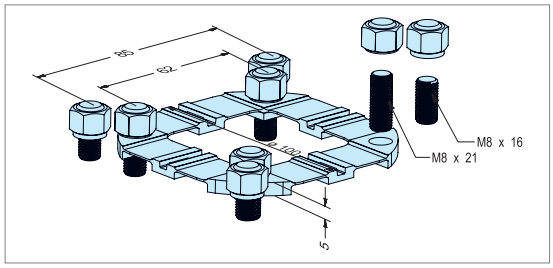
EROWA ITS

Centering plates

ER-036657	**Centering plate G, 1 piece with supporting feet 10.2mm / 11.4 mm**
ER-036658	**Centering plate G, set with 5 pieces with supporting feet 10.2mm / 11.4 mm**

INOX

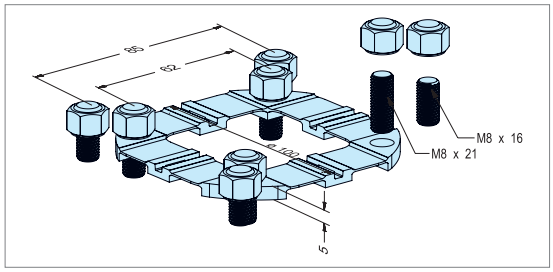
Version	Centering plate G (ground), rust-resistant, including 8 supporting feet SW13, of which 4 supporting feet with height 10.2mm and 4 with height 11.4mm.
Application	For workpieces, fixtures and gauges in chip-cutting production.
Please note	Can also be used to repair older pallet types ø 148 G, for instance ER-015777, ER-015899, ER-032699, etc.
To fit a blank	According to the fitting instructions supplied.



ER-147223	**Centering plate G, 1 pieces with supporting feet 10.2 mm**
ER-153058	**Centering plate G, 5 pieces with supporting feet 10.2 mm**

INOX

Version	Centering plate G (ground), rust-resistant, including 8 supporting feet SW13, height 10.2mm.
Application	For workpieces, fixtures and gauges in chip-cutting production.
Please note	Can also be used to repair new pallet types ø 148 G, for instance ER-115308, ER-115379, ER-115388, etc.
To fit a blank	According to the fitting instructions supplied.



EROWA ITS

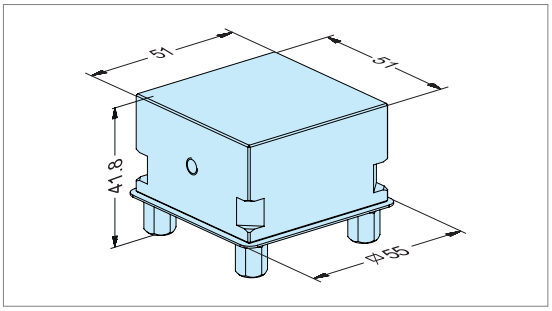
Electrode holders

ITS electrode holders are used to accommodate electrodes or workpieces throughout the machining sequence and for storage. The advantageous price per unit enables users to have a number of them on hand.

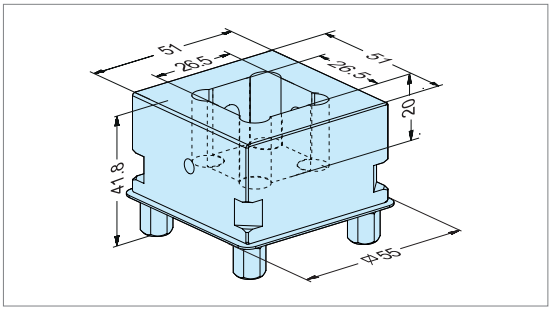
Information about Holder C: thanks to the integrated sealing plate, these holders, in combination with a fitting sealing ring, can be inserted completely sealed into the ITS chuck.

Technical data	ITS standard electrode holders
Material	body: brass centering plate: corrosion-resistant
System accuracy in chuck	< 0.002 mm
Recommended max. weight with electrode	20 kg / 44 lbs
Handling	with EROWA Handling systems or electrode changer.

ER-093758	**Uniblank C** **12 pieces**
	INOX auto C
Version	Brass holder ITS 50 without mounting boreholes. With gripper slots and sealing plate.
Application	To mount electrodes and workpieces of various shapes.
To fit blank	Drill mounting boreholes yourself according to requirements.
Note	Order EWIS™ chip (ER-094168) and chucking spigots separately.



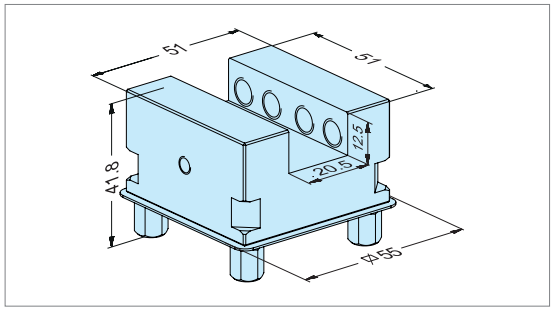
ER-093765	**Prisround C** **12 pieces**
	INOX auto C
Version	Brass holder ITS 50 with square preparation, gripper slots and sealing plate. Including 25xM8 threaded pins.
Application	To mount square electrodes and workpieces with shaft sizes of up to 25mm.
Mounting	With threaded pins. If necessary, center with with spacer plates ER-010523.
Note	Order EWIS™ chip (ER-094168) and chucking spigots seperatly!



ER-093774 Uniholder C
12 pieces

INOX auto

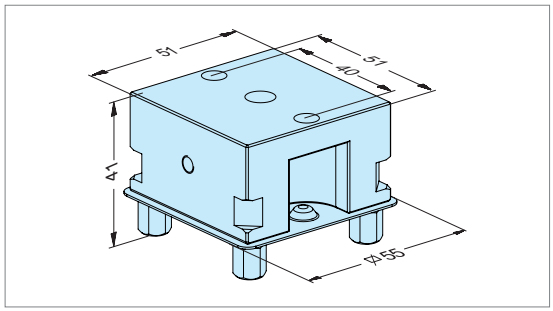
Version	Brass holder ITS 50 with 20.5mm slot, gripper slots and sealing plate. Including 25xM8 threaded pins.
Application	To mount electrodes and workpieces with shank sizes of up to 20 mm.
To fit blank	With threaded pins. If necessary, center with spacer plates ER-010532.
Note	Order EWIS™ chip (ER-094168) and chucking spigots separately!



ER-093780 Uniplate C
12 pieces

INOX auto

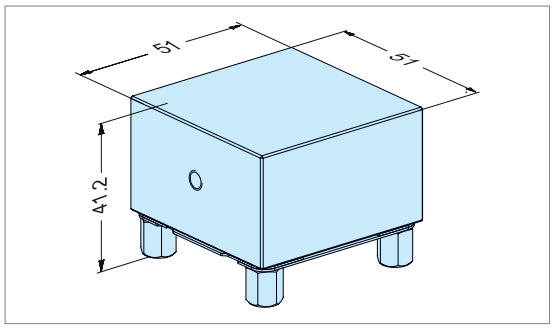
Version	Brass holder ITS 50 with rear mounting option, gripper slots and sealing plate. Surface 51x51mm faced. Including 24xM6 bolts and washers.
Application	To mount electrodes and workpieces with a base surface of more than 50mm.
To fit blank	With 2 x M6 bolts.
Note	Order EWIS™ chip (ER-094168) and chucking spigots separately.



ER-129069 Uniblank
12 pieces

INOX auto

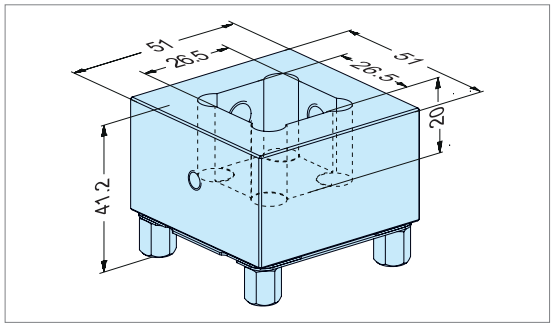
Version	Brass holder ITS 50 without mounting boreholes.
Application	To mount electrodes and workpieces of various shapes.
To fit blank	Drill mounting boreholes yourself according to requirements.
Please note	Order EWIS™ chip (ER-094168) and chucking spigots separately.



ER-129070 Prisround
12 pieces

INOX auto

Version	Brass holder ITS 50 with square preparation. Inlcuding 25xM8 threaded pins.
Application	To mount square electroces and workpieces with shank sizes up to 25mm.
To fit blank	With threaded pins. If necessary, center with spacer plates ER-010532.
Please note	Order EWIS™ chip (ER-094168) and chucking spigots separately.

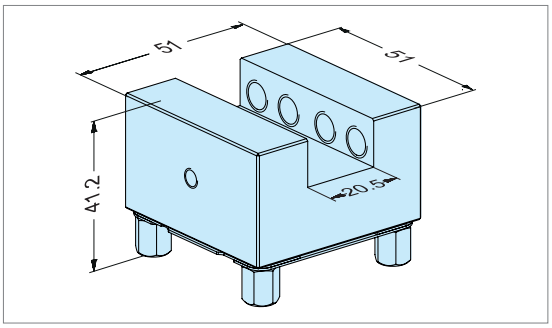


EROWA ITS

Electrode holders

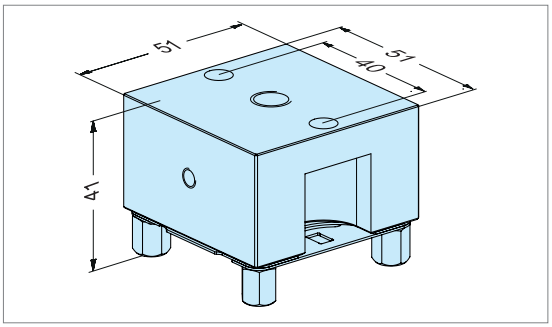
ER-129071 **Uniholder**
12 pieces

Version	Brass holder ITS 50 with 20.5mm slot. Including 25xM8 threaded pins.
Application	To mount electrodes and workpieces with shank sizes of up to 20mm.
To fit blank	With threaded pins. If necessary, center with spacer plates ER-010532.
Please note	Order EWIS™ chip (ER-094168) and chucking spigots separately.



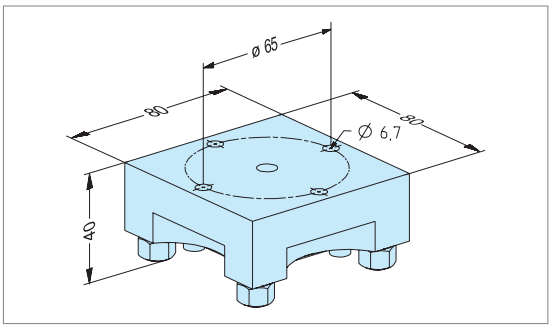
ER-129072 **Uniplate**
12 pieces

Version	Brass holder ITS 50 with rear mouneting option. Faced surface of 51x51mm. Including 24xM6 bolts and washers.
Application	To mount electrodes and workpieces with more than 50mm base surface.
To fit blank	With 2xM6 bolts.
Please note	Order EWIS™ chip (ER-094168) and chucking spigots separately.



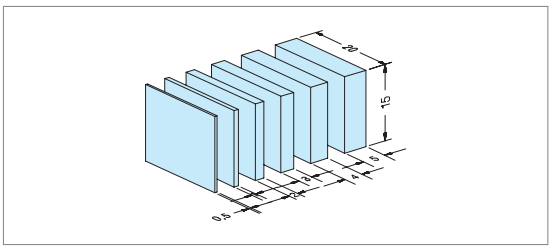
ER-010627 **Uniplate Alu 80 x 80**
4 pieces

Version	Set of 4 units, aluminum, system size 100, with M8 supports.
Application	To mount electrodes and workpieces with a base surface of more than 70 mm.
Mounting	With 4 x M6 bolts into the base surface.

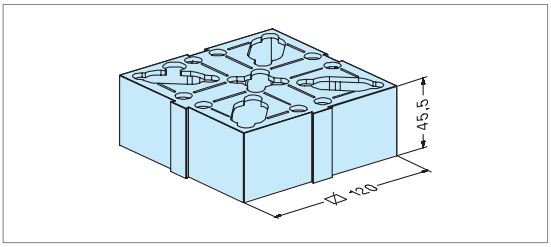


ER-010532 **Spacer plate**
300 pieces

Version	6 x 50 plates. Corrosion-resistant. Thicknesses from 0.5 mm to 5 mm.
Application	Centering of blanks in electrode holders.

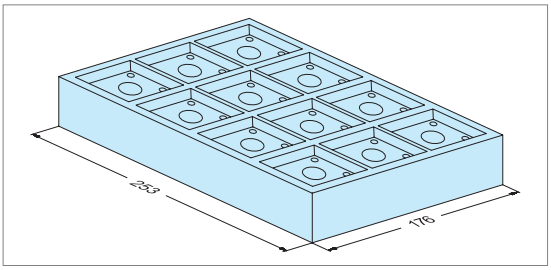


ER-013913 System stand 10 pieces



Version	Plastic, set of 10.
Application	As a rack for four electrode holders 50 or a pallet ø 115/148 mm.
Please note	System racks can be stuck together without any gaps, e. g. to be stored in drawers.

ER-011591 System stand ITS 50 12-fold 10 pieces

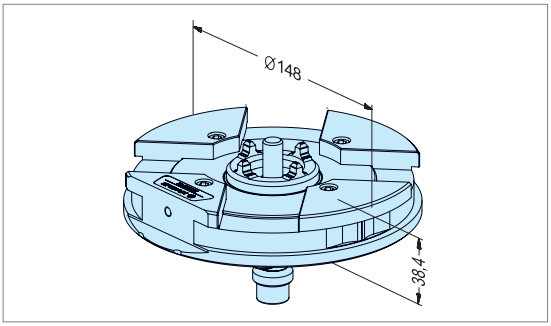


Version	Set of 10 styrene stands.
Application	Storage and transport of electrode holders system size 50.

ER-022250 Adapter pallet ITS 50 / ø 148







Version	ITS system size 100. Lock with central M10 locking bolt.
Application	To accommodate ITS Electrode holders system 50. Lock with central M10 locking bolt. For automatic handling.

EROWA ITS

Holder ø 72

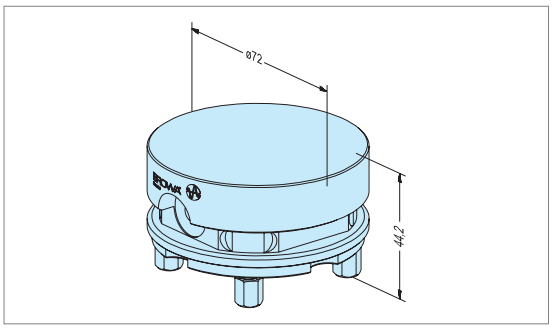
In comparison with the ITS holder 3, the holders ø 72 have a larger clamping surface. In combination with the anti-contamination covers, they also provide maximum protection against the contamination of the chucks. The holders are the ideal solution for autonomous production.

Technical data	ITS Holder ø 72
Material	steel, corrosion-resistant
System accuracy, chuck	< 0.002 mm
Recommended max.	
weight with electrode	20 kg / 44 lbs
Handling	with EROWA handling systems or electrode changers.

ER-035210 Uniblank ø 72 6 pieces

INOX auto 72

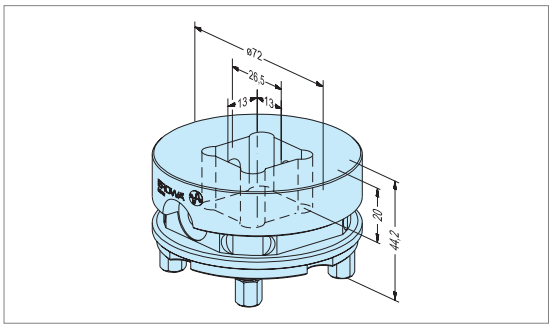
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To mount electrodes and workpieces of various shapes.
Mounting	Attachment boreholes to be drilled according to requirements.



ER-035209 Prisround ø 72 6 pieces

INOX auto 72

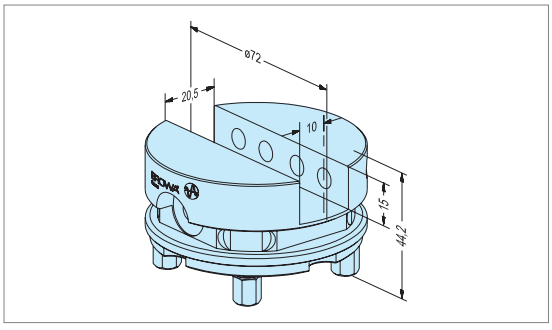
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To mount electrodes and workpieces with shafts of up to square 25 mm.



ER-035211 Uniholder ø 72 6 pieces

INOX auto 72

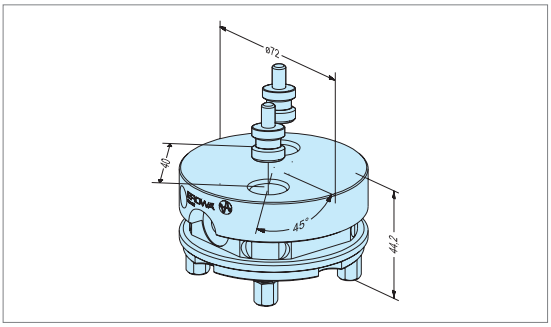
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To mount electrodes and workpieces with shaft of up to 20 mm.



ER-035212 Uniplate ø 72
6 pieces

auto | 72

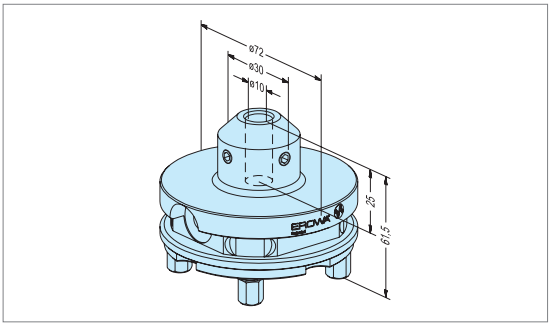
Version	Set of 6 units, includes 12 PinLock locking pins. System size ITS 50, without chucking spigots.
Application	To mount electrodes and workpieces with surface more than square 40 x 40 mm or ø 50 mm.
Mounting	With two PinLock locking pins.



ER-035114 Blank holder ø 10 / ø 72
6 pieces

INOX | auto | 72

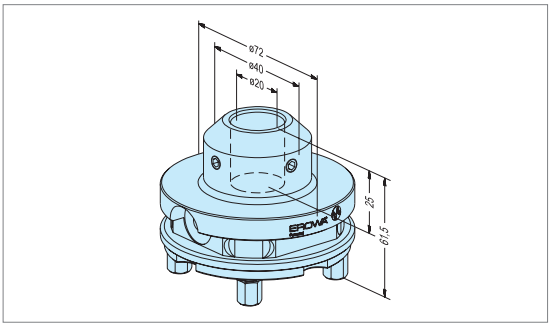
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To clamp cylindrical parts with ø 10 mm.



ER-035097 Blank holder ø 20 / ø 72
6 pieces

INOX | auto | 72

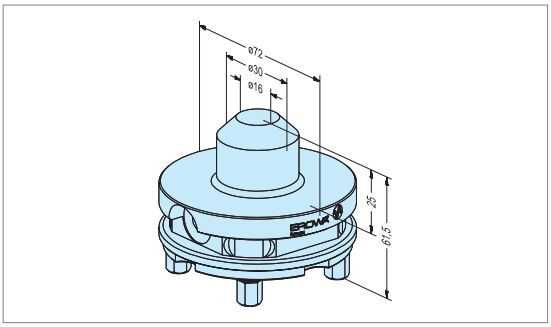
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To clamp cylindrical parts with ø 20 mm.



ER-035117 Blank holder ø 72 without borehole
6 pieces

INOX | auto | 72

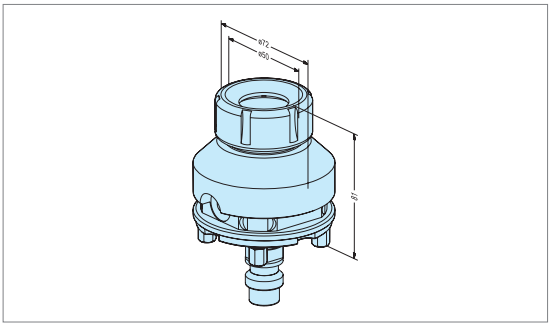
Version	Set of 6 units, system size ITS 50. Without chucking spigots.
Application	To clamp cylindrical parts.
Mounting	Attachment borehole up to max. ø 12 mm to be drilled according to requirements.



ER-035297 Collet chuck holder ø 72
1 piece

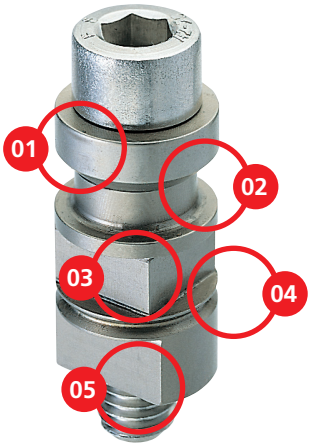
auto | 72

Version	One collet chuck holder with chucking spigot. System size ITS 50.
Application	To clamp cylindrical parts. Clamping range ø 2 mm - ø 20 mm.
Please note	Order collet chucks type ETS 32 separately.



EROWA ITS Chucking spigots

For every application the proper version



01 | Movable upper part for error compensation

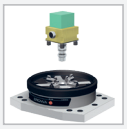
02 | Groove for ball lock

03 | Flats for magazine engagement

04 | Groove for O-ring seal

05 | Flats for gripper

Manual chucking spigots

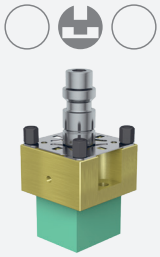


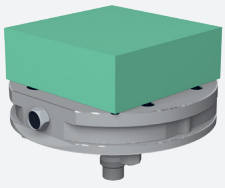


ER-010755

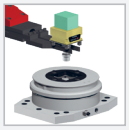


ER-010742





Automatic chucking spigots

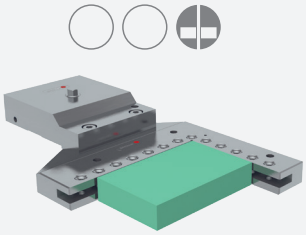


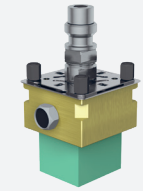


ER-007980

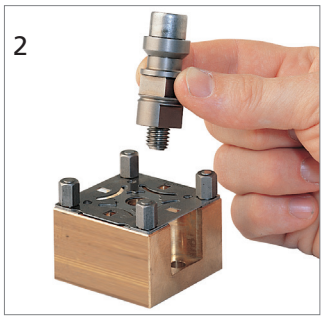


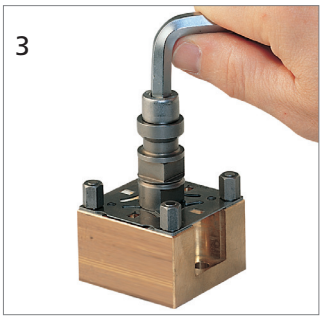
ER-015465

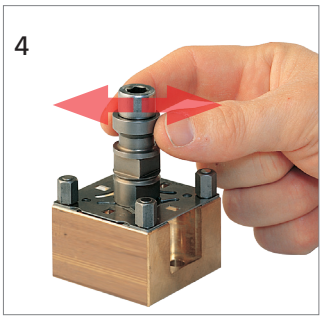












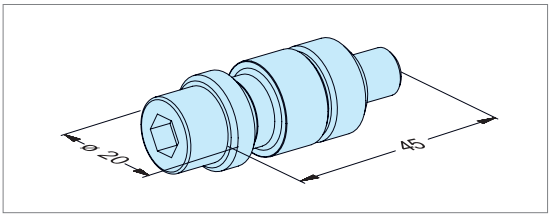
The various versions are exactly tailored to individual applications.

The chucking spigot is only screwed into the holder or pallet for the machining process. Since it does not influence the reference point, it can be removed to save space and only be screwed back in when the holder or pallet is used once more.

Technical data	ITS Chucking spigot
Material	Steel, hardened
Bolt	M10

ER-010755 Chucking spigot F/M EDM for flushing 20 pieces

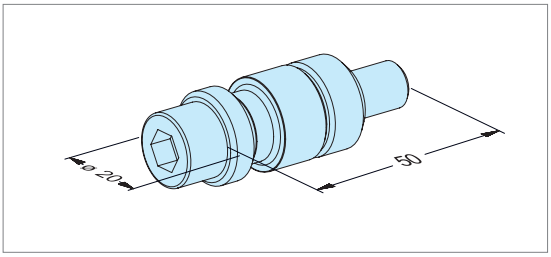
Version: Manual. M10x45 mm bolt, with flushing hole.
Application: For ITS electrode holders. For EDM and light chip cutting.



ER-010742 Chucking spigot F/M production 1 unit

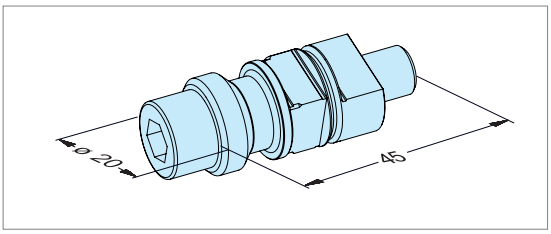
ER-051381 Chucking spigot F/M Production 20 pieces

Version: Manual. M10x50 mm bolt, 12.9 quality (without flushing hole).
Application: To mount on EROWA pallets for chip-cutting machining processes.



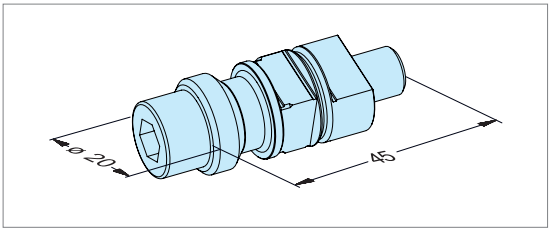
ER-007980 Chucking spigot F/A Inox 20 pieces

Version: Automatic. M10x45 mm bolt, stainless (without flushing hole).
Application: For all holders that are changed automatically. For WEDM and light chip cutting.



ER-015465 Chucking spigot F/A EDM M10 x 45 for flushing, 20 pieces

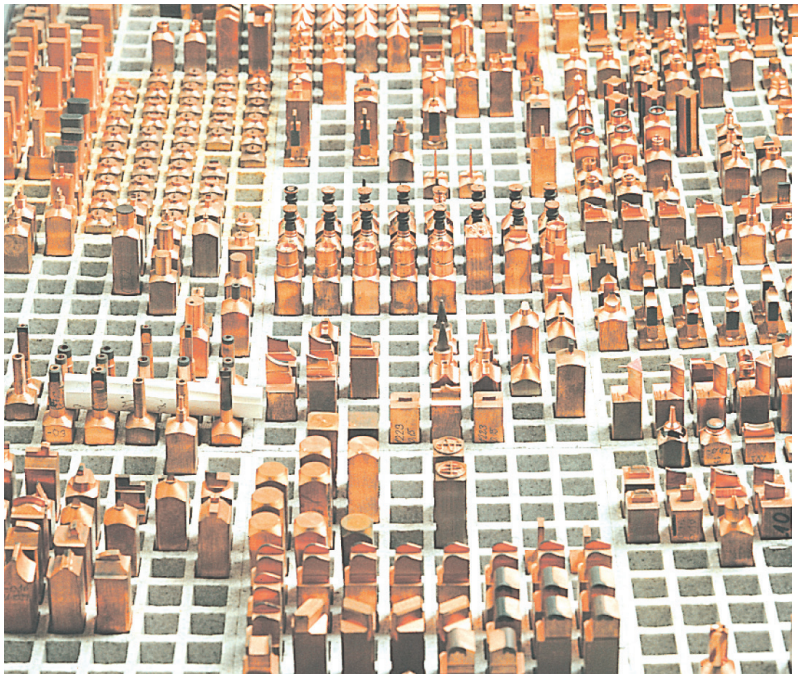
Version: Automatic. M10x45 mm bolt, with flushing hole.
Application: For ITS electrode holders that are changed automatically. For EDM and light chip cutting.



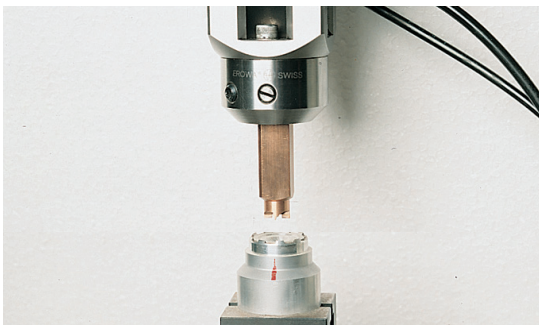
EROWA ITS

Square Electrode System and System Plus

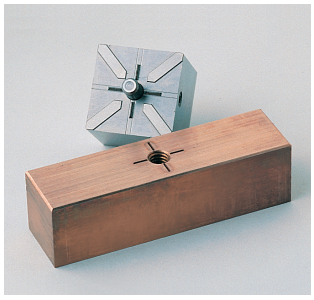
EROWA square holders are highly suitable for the manufacture of small electrodes. Their applications consists of milling, turning, grinding, as well as EDM sinking and WEDM. Used in addition to the System Plus, they represent a well-rounded, well thought-out range of products for everyone who works with many small electrodes.







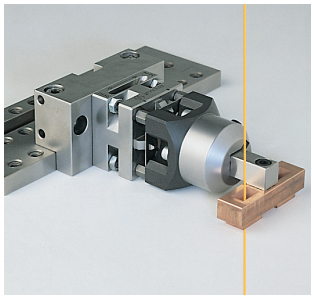
System Plus
The stamped centering profile directly on the blank forms the system reference.



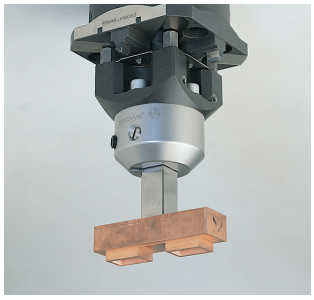
1. Preparation
Stamp in the centering profile.



2. Milling
On a straight System Plus holder.



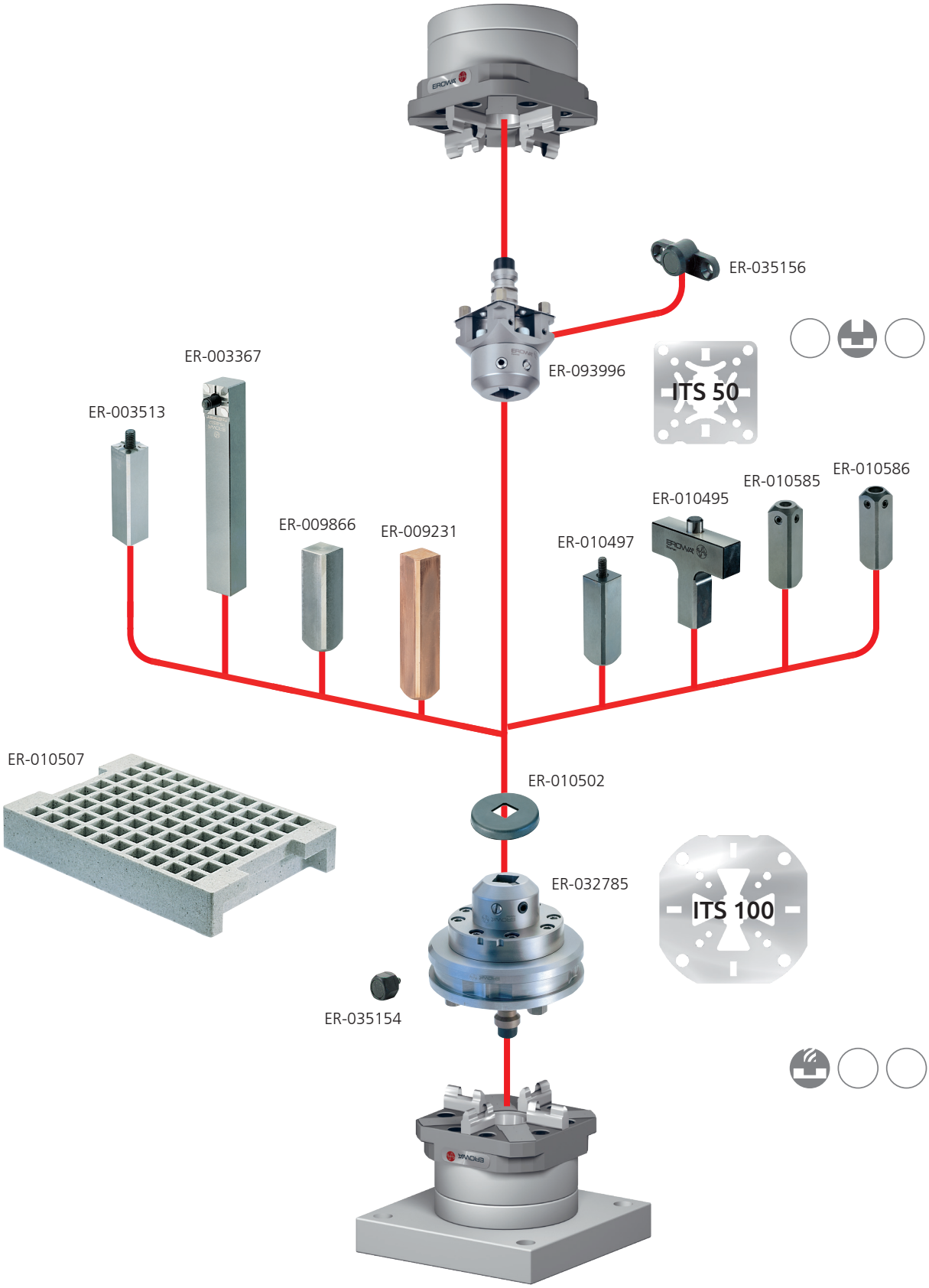
3. WEDM
On an angle holder.



4. EDM
On a straight holder.

EROWA ITS Square Electrode System

The components



EROWA ITS

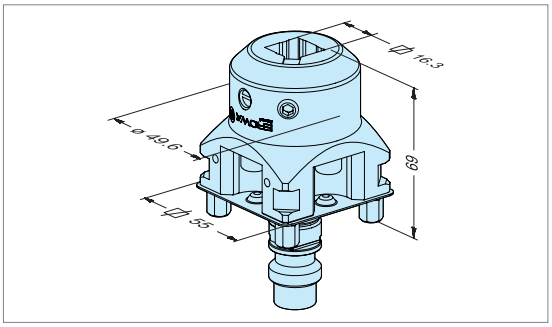
Square Electrode Clamping System 15

ER-093996	**Square 15 holder C 1 pieces**
ER-093997	**Square 15 holder C 12 pieces**





Version ITS system size 50.
Application EDM/WEDM.

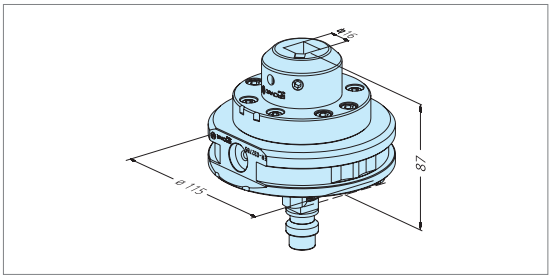


ER-032785	**Square 15 holder EWIS™ for ITS 100**





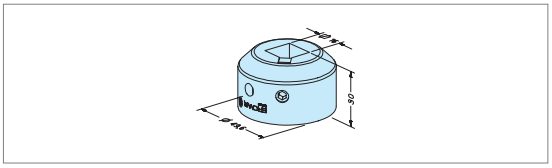
Version ITS system size 100
Application EDM and chip-cutting processes.



ER-007870	**Square 15 holder front part**



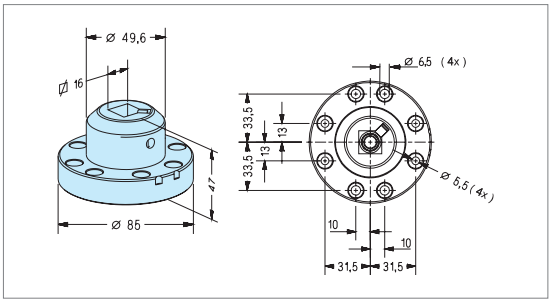
Version Only clamping part of the holder.
Application For the construction on multiple fixtures.



ER-015627	**Square 15 holder on adapter ø 85**

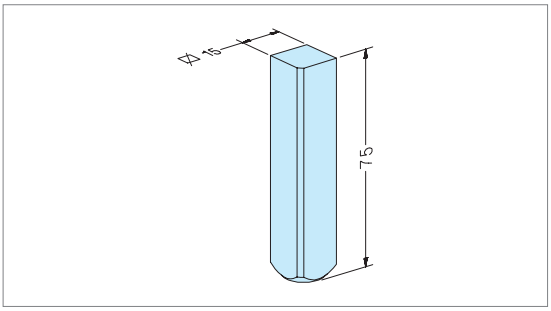


Version Clamping part fitted to flange, positioned with rods.
Application For the construction on multiple fixtures.
Mounting From above through the flange into the base.



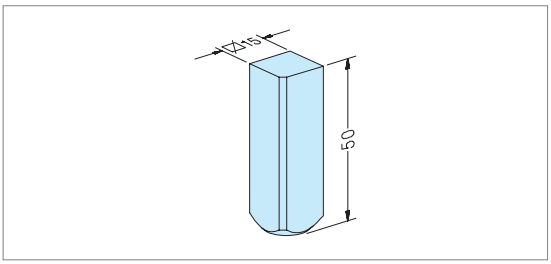
ER-009231 Square 15 electrode blank 40 pieces

Version Set of 40 blanks. EDM copper, drawn profile.
Application Blank for electrodes of up to 15 mm square.



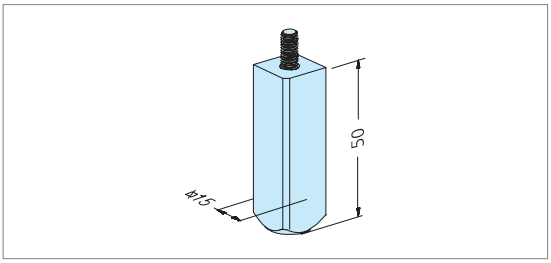
ER-009866 Square 15 electrode shaft 40 pieces

Version Set of 40 shafts, drawn steel.
Application To solder or bond to copper or graphite electrode blanks.



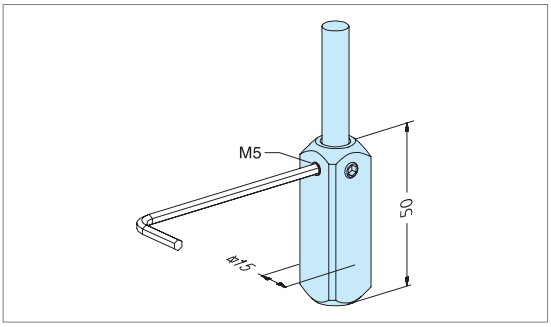
ER-010497 Square 15 electrode shaft M5 10 pieces

Version Set of 10 blanks, hardened, ground, including M5 bolts.
Application To screw on to electrode blanks.



ER-010585 Square 15 blank holder ø 8 mm

Version Steel, hardened, ground.
Application To clamp round parts of ø 8 mm.

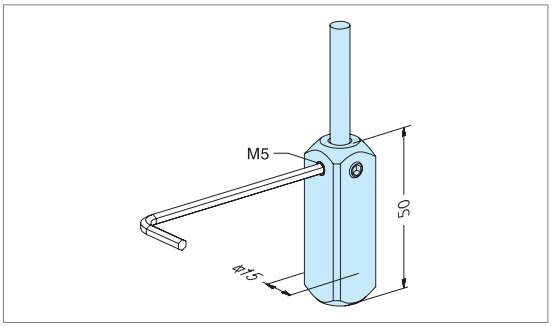


EROWA ITS

Square Electrode Clamping System 15 and System Plus

ER-010586 Square 15 blank holder ø 6 mm

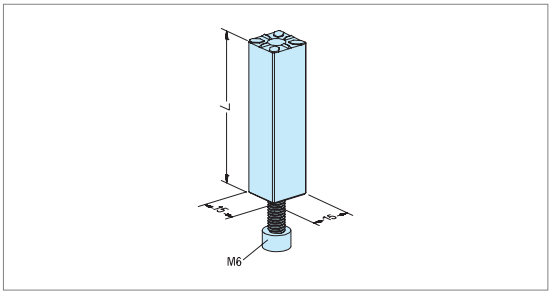
Version Steel, hardened, ground.
Application To clamp round parts of ø 6 mm.



ER-003467 Holder straight 15 x 15 x 37 mm
ER-003513 Holder straight 15 x 15 x 57 mm

INOX

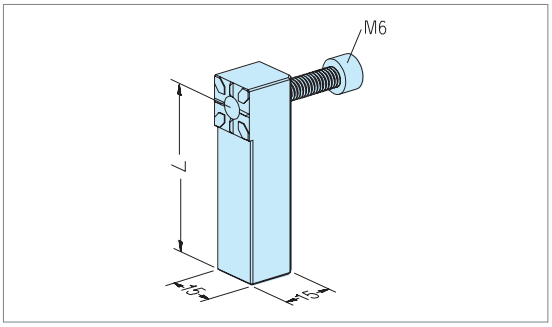
Version Steel, hardened, ground. Centering profile 15 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



ER-003470 Holder straight 15 x 15 x 50 mm
ER-003367 Angle holder 15 x 15 x 100 mm

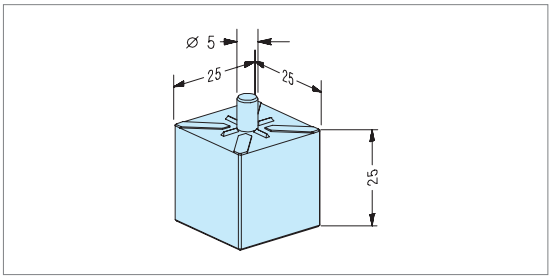
INOX

Version Steel, hardened, ground. Centering profile 15 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



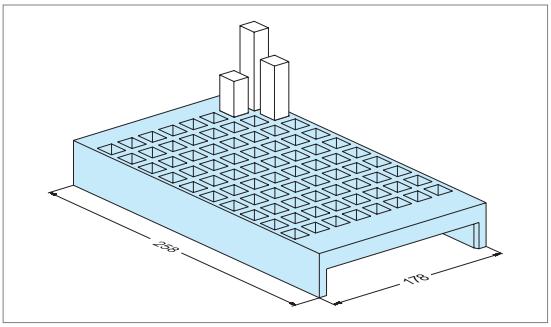
ER-003422 Prism die size 15

Version Steel, hardened, ground. Embossed profile 15 mm.
Application Embossing of centering prisms in blanks.



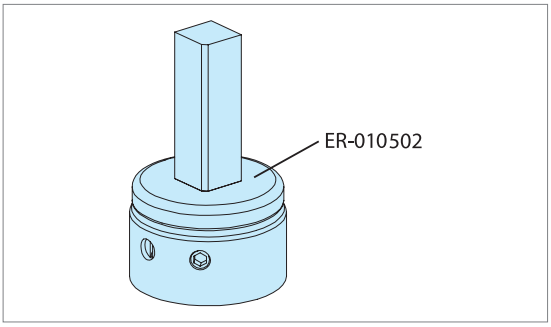
ER-010507 Square 15 electrode stand 10 pieces

Version Set of 10 stands, styrene.
Application Storage and transport of blanks and electrodes.



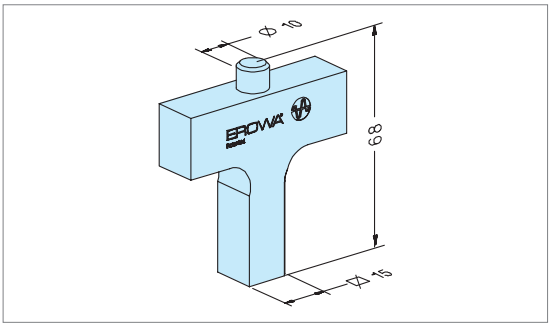
ER-010502 Square 15 chip guard 10 pieces

Version Set of 10 guards, oil-resistant rubber.
Application Protection against chips during electrode manufacturing.



ER-010495 Square 15 alignment rail

Version Steel, hardened, ground.
Application Testing of concentricity and angular accuracy of holder to ITS system.



EROWA ITS

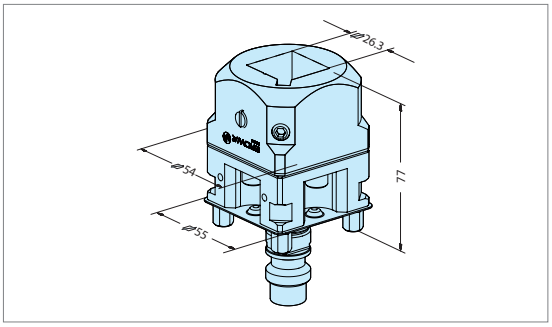
Square Electrode Clamping System 25

ER-093992	**Square 25 holder C 1 pieces**
ER-093993	**Square 25 holder C 12 pieces**





Version ITS system size 50.
Application EDM/WEDM.

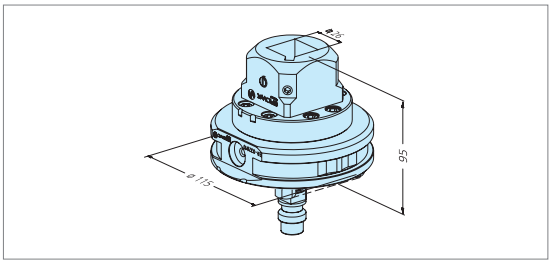


ER-032810	**Square 25 holder EWIS™ for ITS 100**





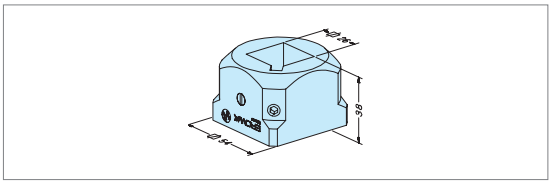
Version ITS system size 100.
Application EDM and chip-cutting processes.



ER-010622	**Square 25 holder front part**



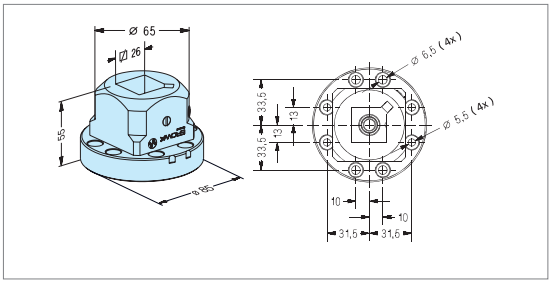
Version Only clamping part of the holder.
Application For the construction on multiple fixtures.



ER-015629	**Square 25 holder on adapter ø 85**



Version Clamping part fitted to flange, fixed with rods.
Application For the construction on multiple fixtures.
Mounting From above through the flange into the base.

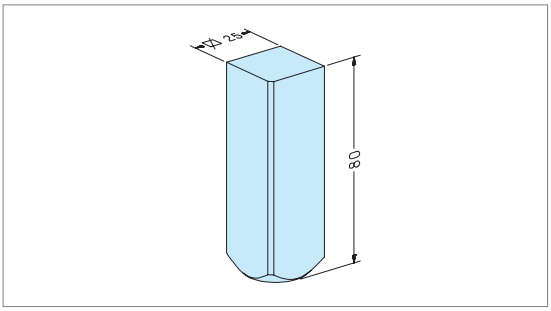


EROWA ITS

Square Electrode Clamping System 25 and System Plus

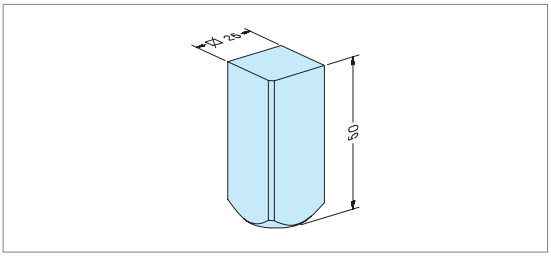
ER-009209 Square 25 electrode blank 24 pieces

Version Set of 24 blanks. EDM copper, drawn profile.
Application Blank for electrodes of up to 25 mm edge square.



ER-010491 Square 25 electrode shaft 24 pieces

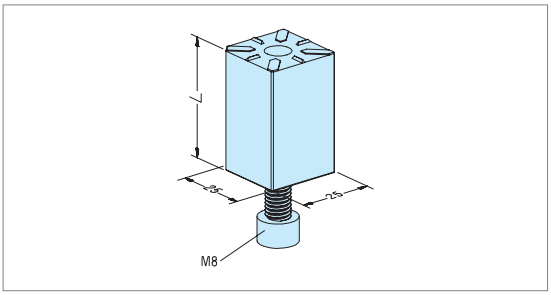
Version Set of 24 shafts, soft steel, drawn profile.
Application To solder or bond to blanks of up to 40 mm square.



ER-003405 Holder straight 25 x 25 x 40 mm
ER-003439 Holder straight 25 x 25 x 65 mm

INOX

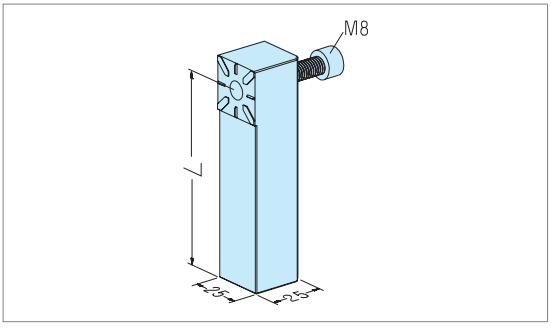
Version Steel, hardened, ground. Centering profile 25 mm. Holder incl. bolt.
Application For electrodes of copper or graphite. Fitting according to supplied instructions.



ER-003393 Angle holder 25 x 25 x 90 mm

INOX

Version Steel, hardened, ground. Centering profile 25 mm. Holder incl. bolt.
Application For electrodes of copper or graphite. Fit according to supplied instructions.

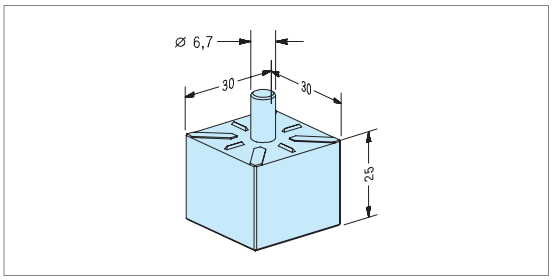


EROWA ITS

Square Electrode Clamping System 25 and System Plus

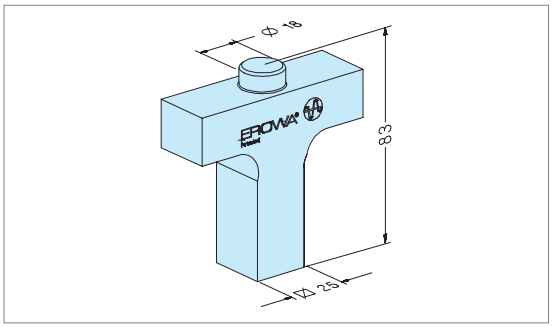
ER-003489 Prism die size 25

Version Steel, hardened, ground. Embossed profile 25 mm.
Application Embossing of centering prisms in blanks.



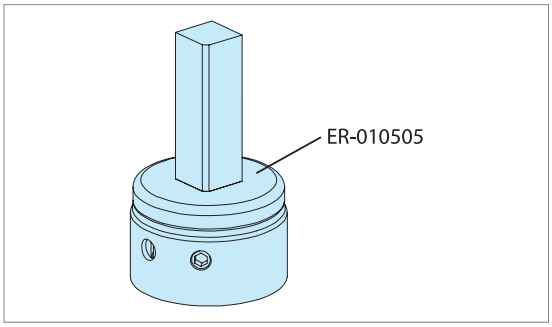
ER-010592 Square 25 alignment rail

Version Steel, hardened, ground.
Application Testing of concentricity and angular accuracy of the holder to the ITS system.



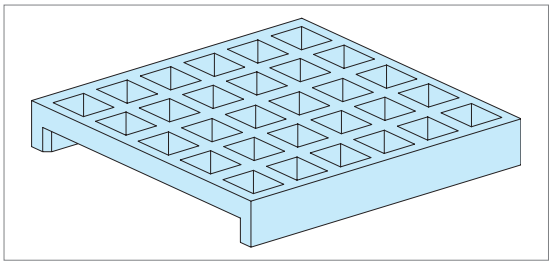
ER-010505 Square 25 chip guard 10 pieces

Version Set of 10 guards, oil-resistant rubber.
Application Protection against chips during electrode manufacturing.



ER-010511 Square 25 electrode stand 10 pieces

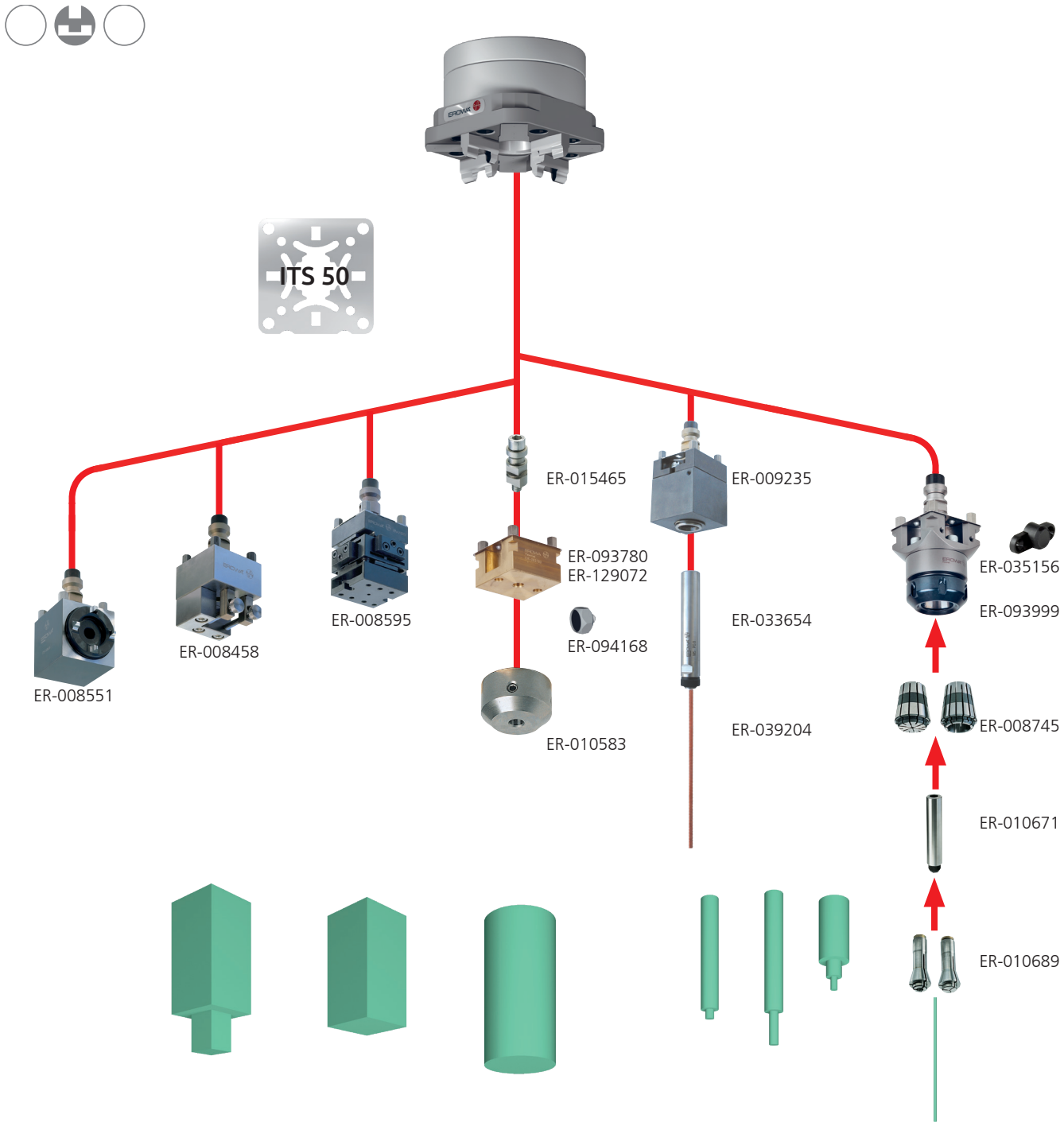
Version Set of 10 styrene stands.
Application Storage and transporting of blanks and electrodes.



EROWA ITS Special Electrode Holders

The components

These holders support the manufacturing of special electrodes. Thanks to their adjustable angular and axial positions, existing electrodes can be integrated into the system. One of each of these holders should be kept ready for use in every workshop.

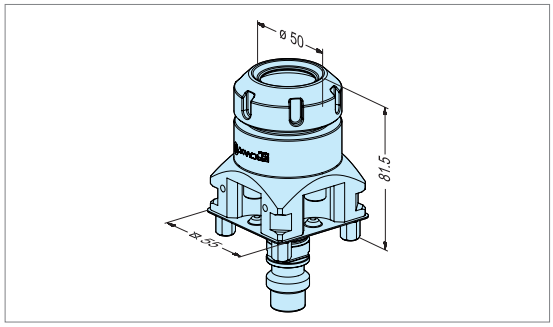


EROWA ITS

Special Electrode Holders

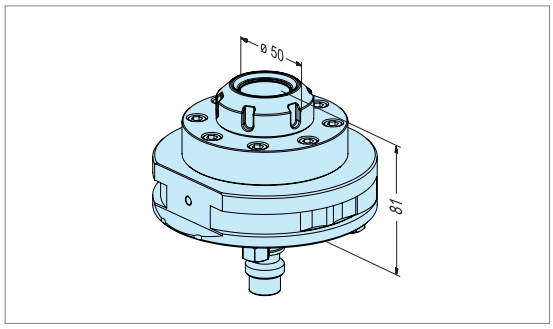
ER-093999 Collet chuck holder 50 C

Version: System size 50, incl. wrench.
Application: For round material up to ø 20 mm.



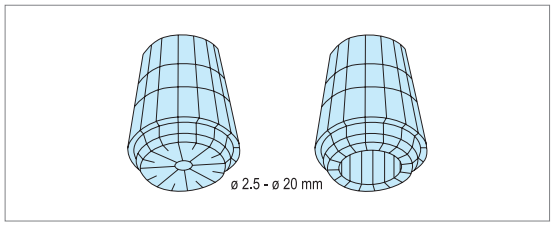
ER-149572 Collet chuck holder on pallet ø115 MS

Version: Steel. Palleet with centering plate 100 (punched).
Application: To accommodate round material, workpieces or electrodes up to ø 20mm.



ER-008745 Set of collet chucks ETS 32 set to 19 pc. ø 2,5 - ø 20 mm

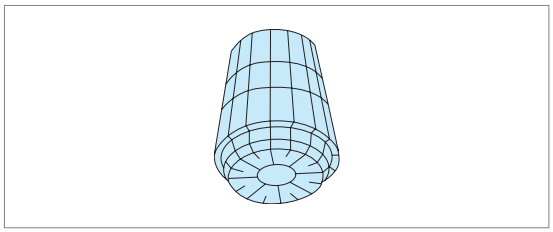
Version: 19 collet chucks from ø 2.5 mm to ø 20 mm.
Application: For round material up to ø 20 mm.



EROWA ITS

Special Electrode Holders

ER-006700	**Collet chuck ø 2.5 mm ETS 32**
ER-006701	**Collet chuck ø 3 mm ETS 32**
ER-006702	**Collet chuck ø 4 mm ETS 32**
ER-006703	**Collet chuck ø 5 mm ETS 32**
ER-006704	**Collet chuck ø 6 mm ETS 32**
ER-006705	**Collet chuck ø 7 mm ETS 32**
ER-006706	**Collet chuck ø 8 mm ETS 32**
ER-006707	**Collet chuck ø 9 mm ETS 32**
ER-006708	**Collet chuck ø 10 mm ETS 32**
ER-006709	**Collet chuck ø 11 mm ETS 32**
ER-006710	**Collet chuck ø 12 mm ETS 32**
ER-006711	**Collet chuck ø 13 mm ETS 32**
ER-006712	**Collet chuck ø 14 mm ETS 32**
ER-006713	**Collet chuck ø 15 mm ETS 32**
ER-006714	**Collet chuck ø 16 mm ETS 32**
ER-006715	**Collet chuck ø 17 mm ETS 32**
ER-006716	**Collet chuck ø 18 mm ETS 32**
ER-006717	**Collet chuck ø 19 mm ETS 32**
ER-006718	**Collet chuck ø 20 mm ETS 32**



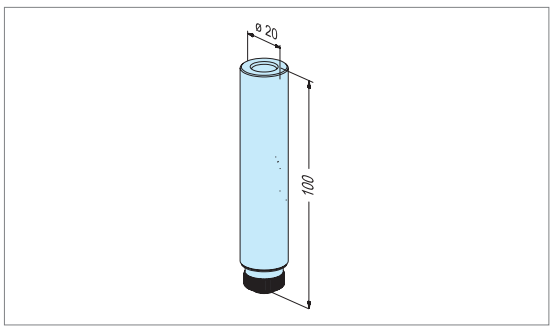
Version Delivered separately, clamping range per collet chuck:
ø 2.5 mm = 0.5 mm
ø 3-20 mm = 1 mm

Application Round material from ø 2 mm to ø 20 mm.

ER-010671 Mini collet chucks holder ø 20

Version Steel ground ø 20 mm.

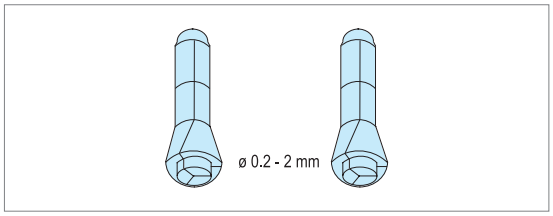
Application In ø 20 mm adapter or in ø 20 mm collet chuck for mini collet chucks of ø 0.2 mm to ø 2 mm.



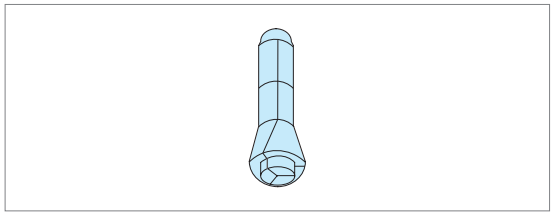
ER-010689 Set of mini collet chucks set to 19 pc. ø 0,2 - ø 2.0 mm

Version Set of 19 collet chucks ø 0.2 mm to ø 2.0 mm, steel ground, with brass seal for appropriate diameter.

Application Clamping of small electrode tubes ø 0.2 mm to ø 20 mm.



ER-002403	Mini collet chuck ø 0.2 mm
ER-002404	Mini collet chuck ø 0.3 mm
ER-002405	Mini collet chuck ø 0.4 mm
ER-002406	Mini collet chuck ø 0.5 mm
ER-002407	Mini collet chuck ø 0.6 mm
ER-002408	Mini collet chuck ø 0.7 mm
ER-002409	Mini collet chuck ø 0.8 mm
ER-002410	Mini collet chuck ø 0.9 mm
ER-002411	Mini collet chuck ø 1.0 mm
ER-002412	Mini collet chuck ø 1.1 mm
ER-002413	Mini collet chuck ø 1.2 mm
ER-002414	Mini collet chuck ø 1.3 mm
ER-002415	Mini collet chuck ø 1.4 mm
ER-002416	Mini collet chuck ø 1.5 mm
ER-002417	Mini collet chuck ø 1.6 mm
ER-002418	Mini collet chuck ø 1.7 mm
ER-002419	Mini collet chuck ø 1.8 mm
ER-002420	Mini collet chuck ø 1.9 mm
ER-002421	Mini collet chuck ø 2.0 mm





Version Steel, ground, with brass seal for appropriate diameter.
Application Clamping of small electrode tubes.

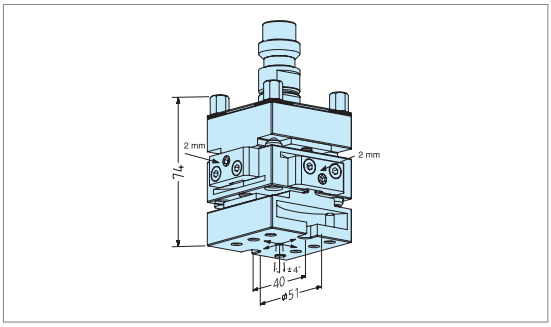
EROWA ITS

Special Electrode Holders

ER-008595 Zekant

Version: Electrode holder with cross slide (2 mm travel) and pendulum movement (+/– 4°).

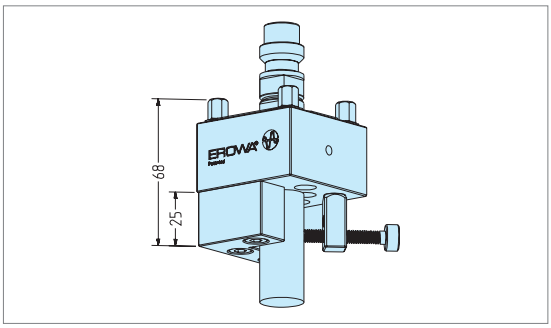
Application: Clamping and alignment of electrodes. Not suitable for chip-machining.



ER-008458 V-block holder stainless

Version: Prism ground bearing surfaces 10 mm +/– 0.005 mm from the center.

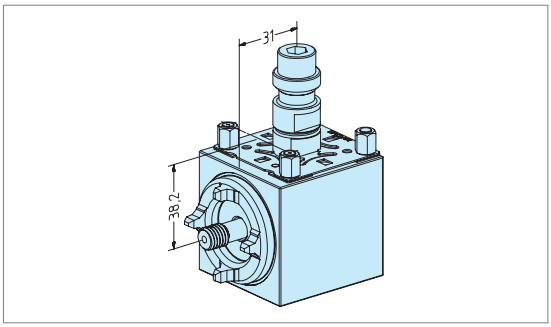
Application: Clamping from outside, precision machined electrodes or small workpieces.



ER-008551 Horizontal holder ITS 50

Version: Hardened and ground 90° angle and centering accuracy 0.005 mm.

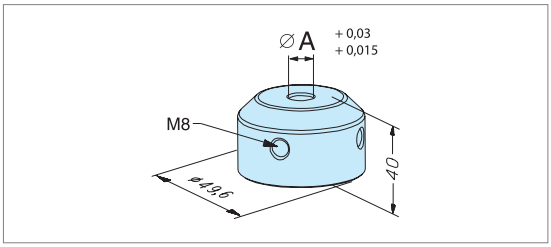
Application: Clamping of electrode holders in horizontal position, may not be used for chip-machining.



ER-010583 Blank holder ø 10 mm
ER-010581 Blank holder ø 12 mm
ER-010577 Blank holder ø 20 mm

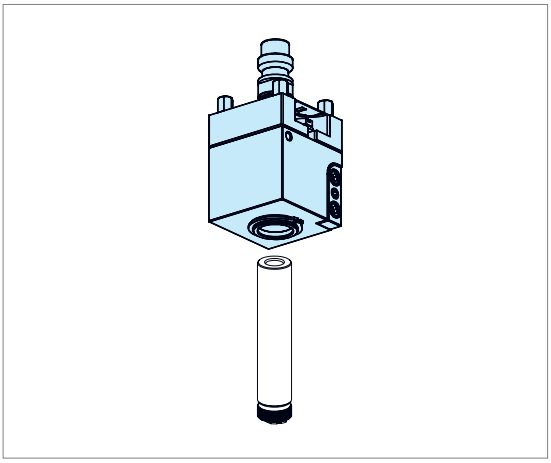
Version: Steel, hardened, ground bore.

Application: Fit to Uniplate C ER-093780 for clamping of precision copper tubes or bars.

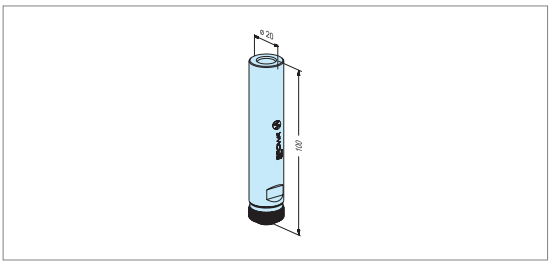


ER-009235	**Adapter ø 20 mm**

Version Hydraulic holding of ø 20 mm shafts.
Application Recommended to hold the 20 mm EROWA thread holder.

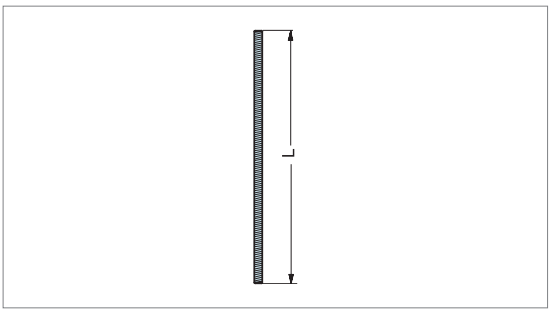


ER-033654	**Thread holder M3 P=0.5mm / ø 2.3 mm / L= 100**
ER-033655	**Thread holder M4 P=0.7mm / ø 2.9 mm / L= 100**
ER-033656	**Thread holder M5 P=0.8mm / ø 3.8 mm / L= 120**
ER-033657	**Thread holder M6 P=1mm / ø 4.5 mm / L= 120**



Version Ground 20 mm shaft.
Application Defined positioning of threaded EROWA electrodes.
Note Systems for M3, M4, M5 and M6.

ER-033204	**Threaded electrode M3 / L= 80**
ER-033205	**Threaded electrode M4 / L= 80**
ER-033206	**Threaded electrode M5 / L= 120**
ER-033207	**Threaded electrode M6 / L= 120**

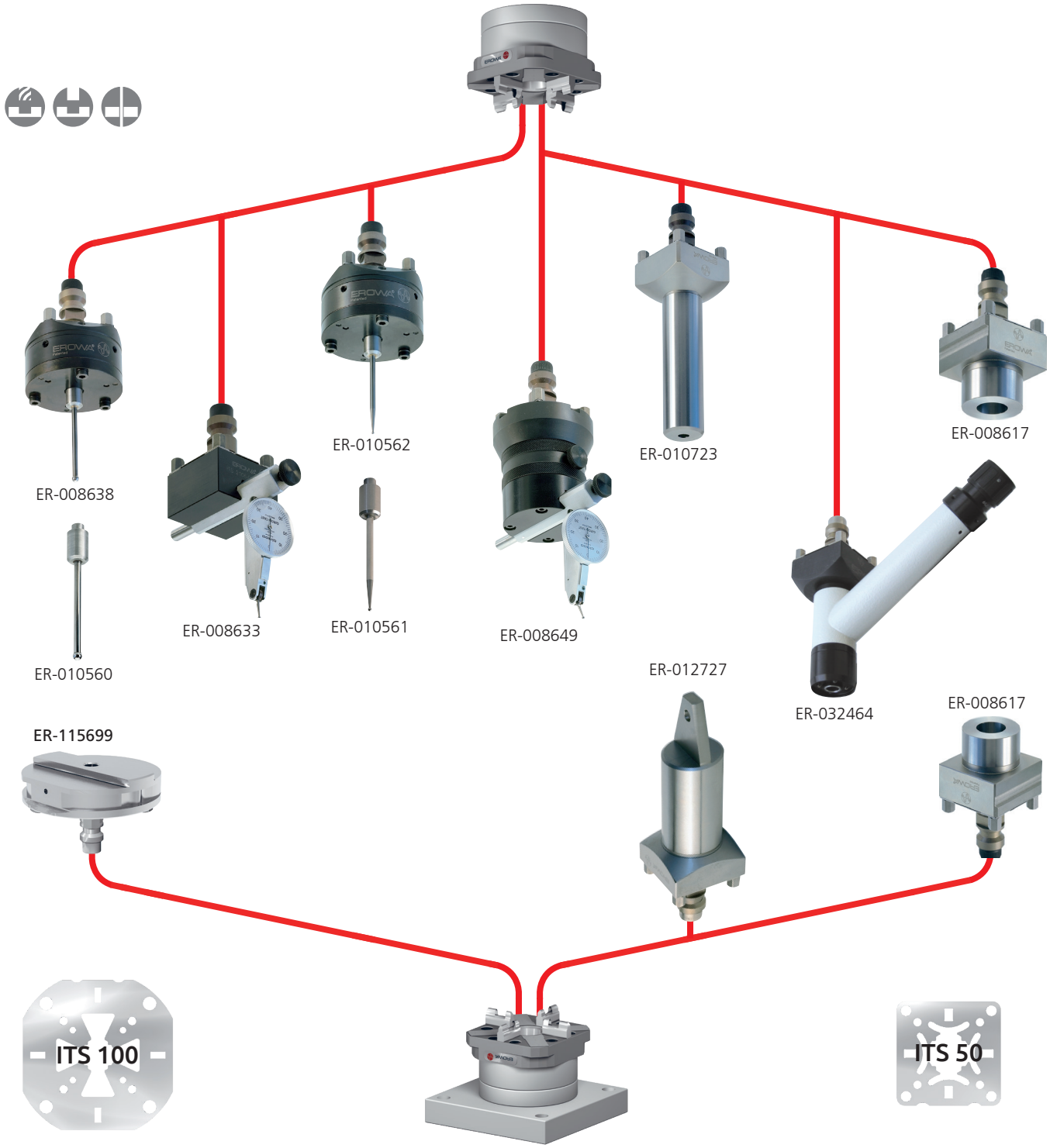


Version EDM copper with precision thread.
Application For EDM-ing threads with EROWA Thread holder system.
Note Sizes available for: M3, M4, M5 and M6.

EROWA ITS Measuring devices

The components

Trust is good - checking is better. The EROWA ITS measuring and checking elements make it easier for you to check your means of production. These measuring elements are used in chip-cutting machining, as well as in EDM and WEDM.



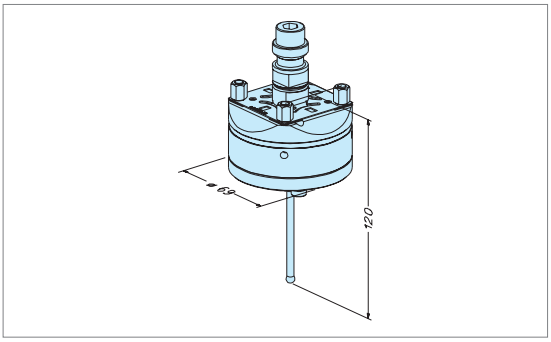
EROWA ITS

Measuring devices

ER-008638 Sensor with ball ø 5 mm
ER-010562 Sensor with ball ø 2 mm

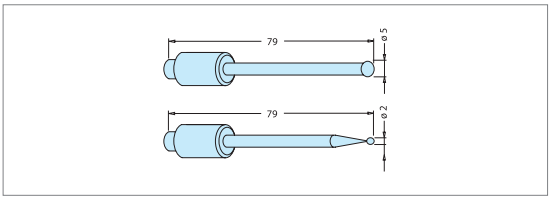
auto

Version: Holder with spring-loaded sensing pin and tungsten carbide ball. Overrun protection: X, Y, Z 1 mm. Repetition accuracy: X, Z, Y 0.002 mm.
Application: Automatic measurement of workpieces in CNC EDM sinking centers.



ER-010560 Replacement sensor pin ø 5 mm
ER-010561 Replacement sensor pin ø 2 mm

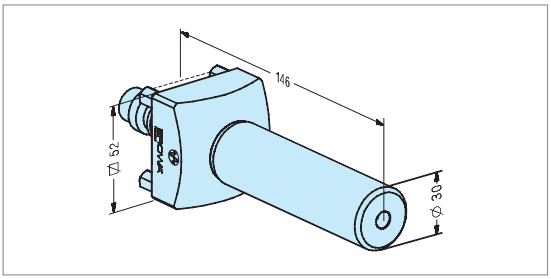
Version: Tungsten carbide, incl. adapter part, without spacer washer
Application: Replacement of pins in sensors ER-008638 and ER-010562 Attention: spacer washer is matched to the respective sensor.



ER-010723 Checking pin 50

INOX

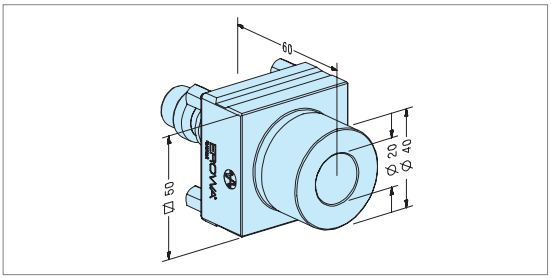
Version: Hardened, ground.
Application: Alignment of radial, axial and angular position of ITS chucks.



ER-008617 Gauging pin

INOX

Version: Hardened, ground.
Application: Alignment of ITS chucks in radial, axial and angular position.



ITS

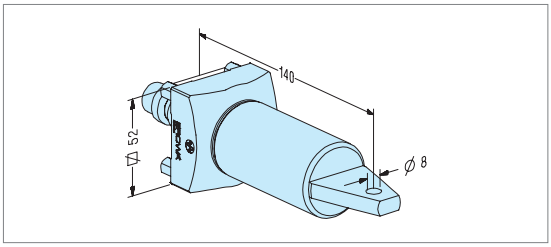
EROWA ITS

Measuring devices

ER-012727 Reference pin UnoSet

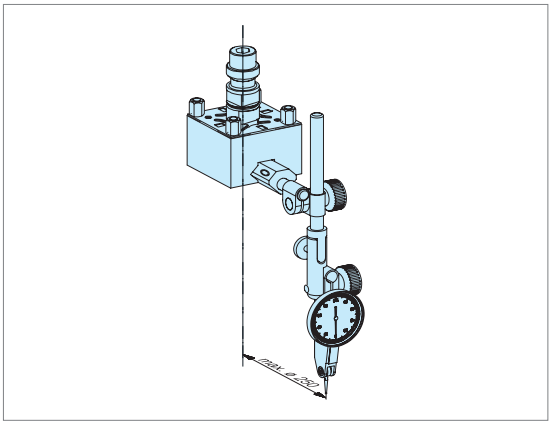
INOX

Version	Hardened, ground, borehole ø 8 mm.
Application	To determine reference measurements on horizontal chucks.



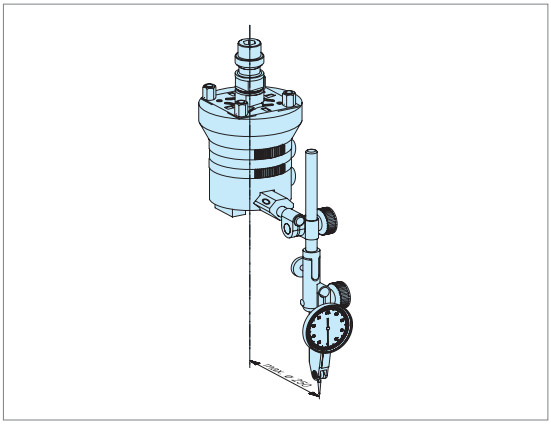
ER-008633 Fixed centering device

Version	Holder with sliding part and metric dial gauge mm. Scale graduation: 0.01 mm.
Application	Concentricity measurement of workpieces on machines with C-axis or rotating spindle.



ER-008649 Rotatable centering device complete

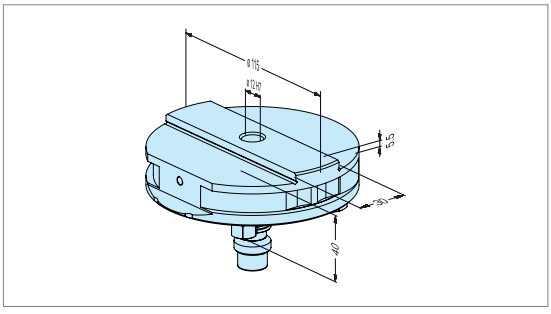
Version	Holder with rotating and sliding part, including metric dial gauge mm. Scale graduation: 0.01 mm.
Application	Concentricity measurement of workpieces on machines without rotating axis.



ER-115699 Alignment pallet ø 115 MS

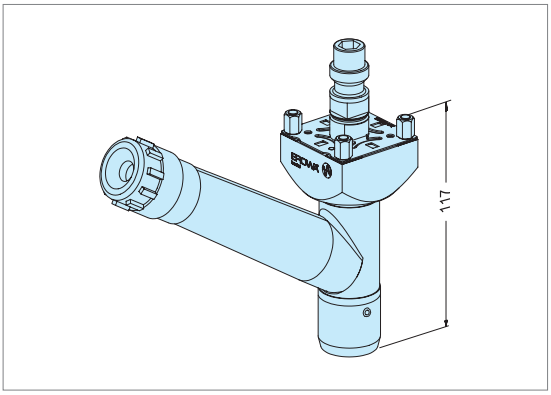
INOX 115

Version	Pallet ø 115 mm, alignment length 110 mm, center borehole ø 12 mm.
Application	Alignment of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.



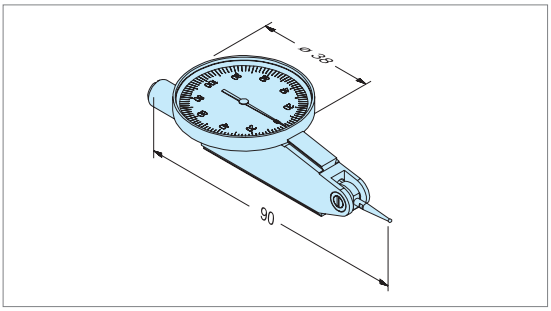
ER-032464 Microscope ITS with pointed checking pin

Version	Amplification factor: 40x Illumination: 5 V, Tansformer: 100-240 V.
Application	Determination of dimensions for complicated contours. The checking pin with tip serves for adjustment of the optical system.



ER-001565 Dial gauge ø 38, 0.002 mm

Version	Measuring range +/- 0.2 mm graduation 0.002 mm.
Application	On PreSet setup and pre-setting cells, and on ITS centering devices.

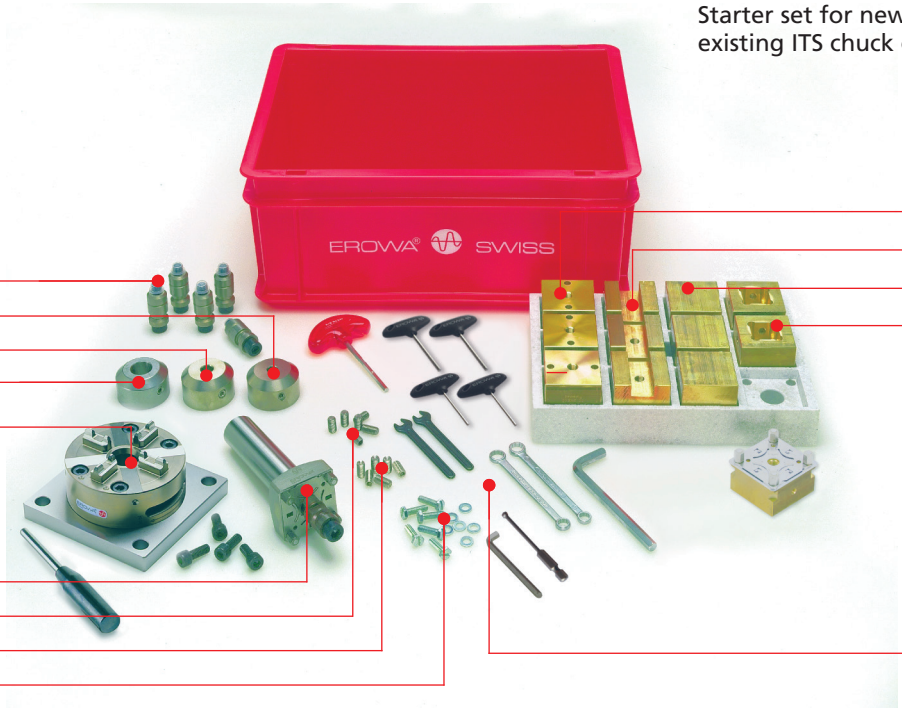


EROWA ITS Element Set

My first EROWA

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, consumables in particular, can be ordered according to requirements.

Starter set for newcomers, with existing ITS chuck on the EDM quill.



ER-103679 My first EROWA QuickChuck 100 P C

This material is packed into one solid plastic box.

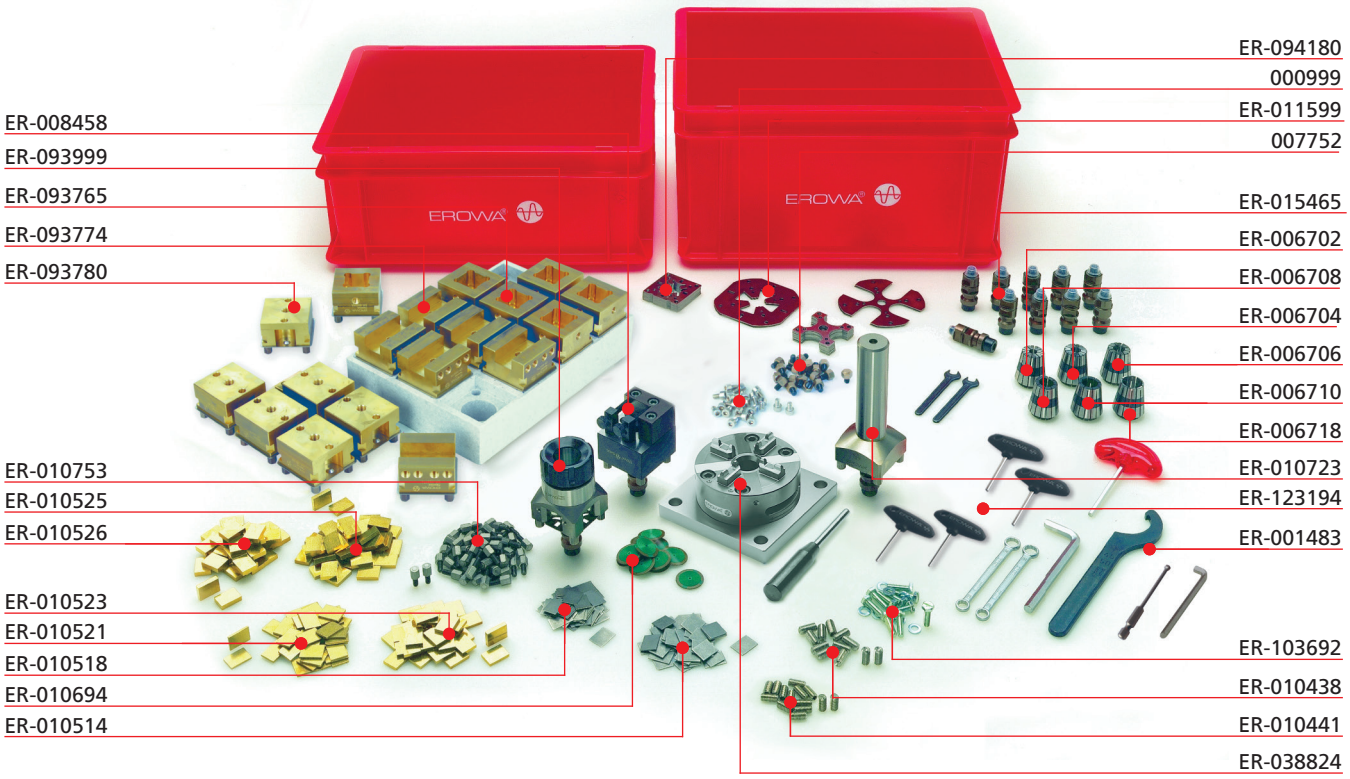
Order number	Description	Units per set	Units supplied by order number
ER-093758	Uniblank C EWIS	3	12
ER-093765	Prisround C EWIS	3	12
ER-093774	Uniholder C EWIS	3	12
ER-093780	Uniplate C EWIS	3	12
ER-010438	Setscrew M8 x 16 for Prisround	6	25
ER-010441	Setscrew M8 x 16 for Uniholder	6	25
ER-010577	Blank holder ø 20 mm	1	1
ER-010581	Blank holder ø 12 mm	1	1
ER-010583	Blank holder ø 10 mm	1	1
ER-103692	Hexagon socket bolt M6 x 20 for Uniplate C	6	12
ER-010723	Checking pin	1	1
ER-123194	Tools ITS C	1	1
ER-038824	QuickChuck 100 P with base plate	1	1
ER-015465	Chucking spigot F/A EDM	5	20
ER-103687	Set of SW5 hex keys for ITS C	1	1

EROWA ITS Element Set

EDM Set Basic

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, in particular consumables, can be ordered according to requirements.

User set for manual or CNC EDM centers with ITS quill chuck. The supplied chuck has been designed for manual electrode manufacturing.



ER-103680 EDM Set Basic QuickChuck 100 P C

This material is packed into two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
ER-000974	M10 x 20 hex socket head bolt	1	1
ER-001483	Key for collet holder 50	1	1
ER-006702	Collet ø 4mm	1	1
ER-006704	Collet ø 6 mm	1	1
ER-006706	Collet ø 8 mm	1	1
ER-006708	Collet ø 10 mm	1	1
ER-006710	Collet ø 12 mm	1	1
ER-006718	Collet ø 20 mm	1	1
ER-008458	Prism holder, stainless	1	1
ER-093999	Collet holder 50 C	1	1
ER-103687	Set of SW5 hex keys for ITS C	1	1

ER-103680 EDM Set Basic QuickChuck 100 P C

This material is packed into two solid plastic boxes.

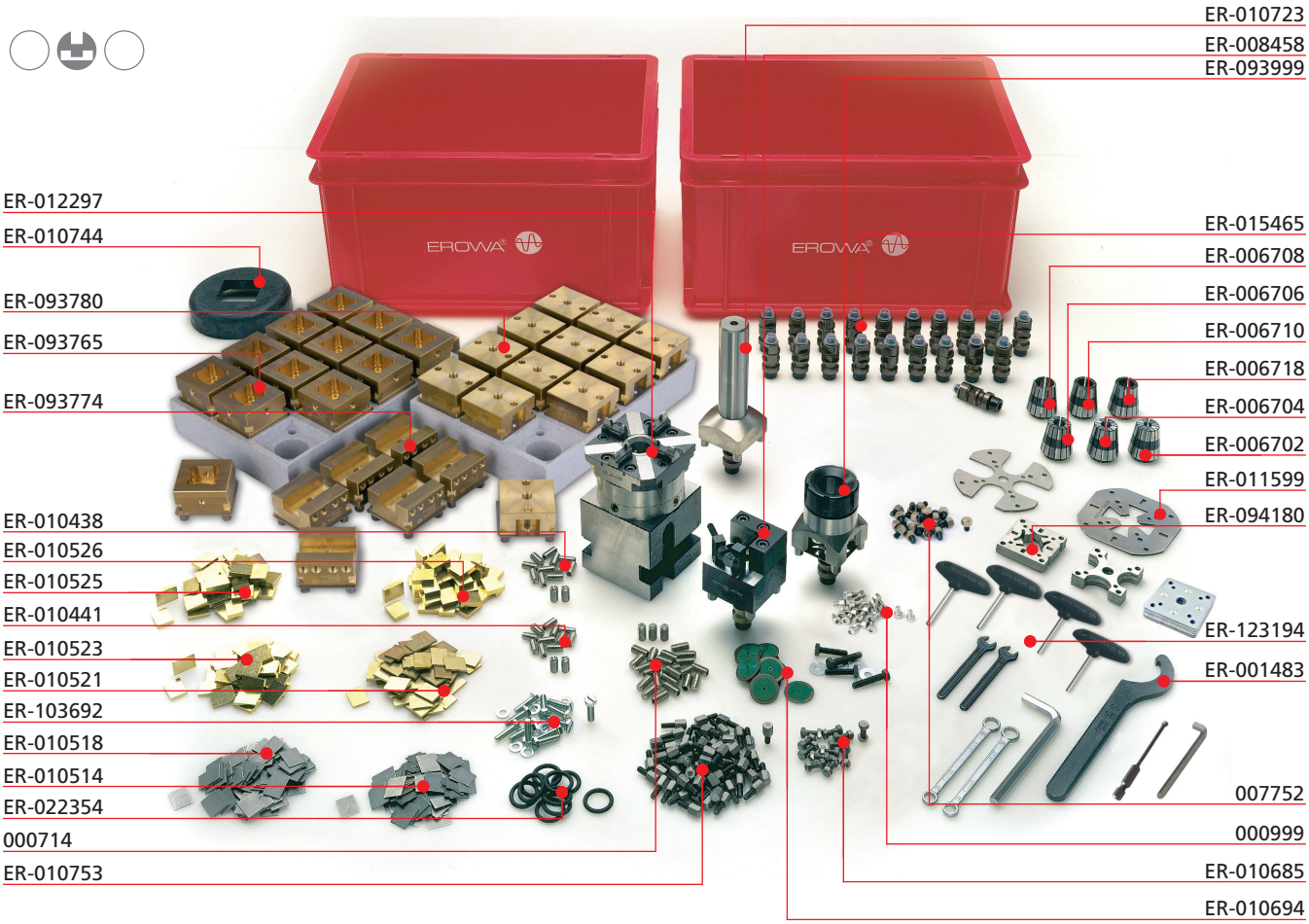
Order number	Description	Units per set	Units supplied by order number
ER-094180	Centering plate 50 C with washer	20	50
ER-011599	Centering plate 100 M5 with washer	5	10
ER-093765	Prisround C EWIS	6	12
ER-093774	Uniholder C EWIS	6	12
ER-093780	Uniplate C EWIS	6	12
ER-010438	Setscrew M8 x 16 for Prisround	12	25
ER-010441	Setscrew M8 x 16 for Uniholder	12	25
ER-010514	Spacer plate 0,5 mm	50	50
ER-010518	Spacer plate 1 mm	50	50
ER-010521	Spacer plate 2 mm	50	50
ER-010523	Spacer plate 3 mm	50	50
ER-010525	Spacer plate 4 mm	50	50
ER-010526	Spacer plate 5 mm	50	50
ER-103692	Hexagon socket bolt for Uniplate C	12	12
ER-010694	Sealing washers	12	24
ER-010723	Checking pin	1	1
ER-010753	Support feet M5	100	100
ER-123194	Tools ITS C	1	1
ER-038824	QuickChuck 100 P with base plate	1	1
ER-015465	Chucking spigot F/A EDM	10	20
007752	M8 support foot	20	–
000999	M5 x 8 socket head bolt	20	–

EROWA ITS Element Set

EDM Standard Set

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, in particular consumables, can be ordered according to requirements.

User set for manual or CNC centers. Containing, among other things, 50 electrode holders and a chuck.



ER-103681 EDM Set Standard ITS C

This material is packed into two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
000714	Setscrew M8 x 16	25	1
ER-001483	Key for collet holder 50	1	1
ER-006702	Collet ø 4 mm	1	1
ER-006704	Collet ø 6 mm	1	1
ER-006706	Collet ø 8 mm	1	1
ER-006708	Collet ø 10 mm	1	1
ER-006710	Collet ø 12 mm	1	1
ER-006718	Collet ø 20 mm	1	1
ER-103687	Set of SW5 hex keys for ITS C	1	1

ER-103681 EDM Set Standard ITS C

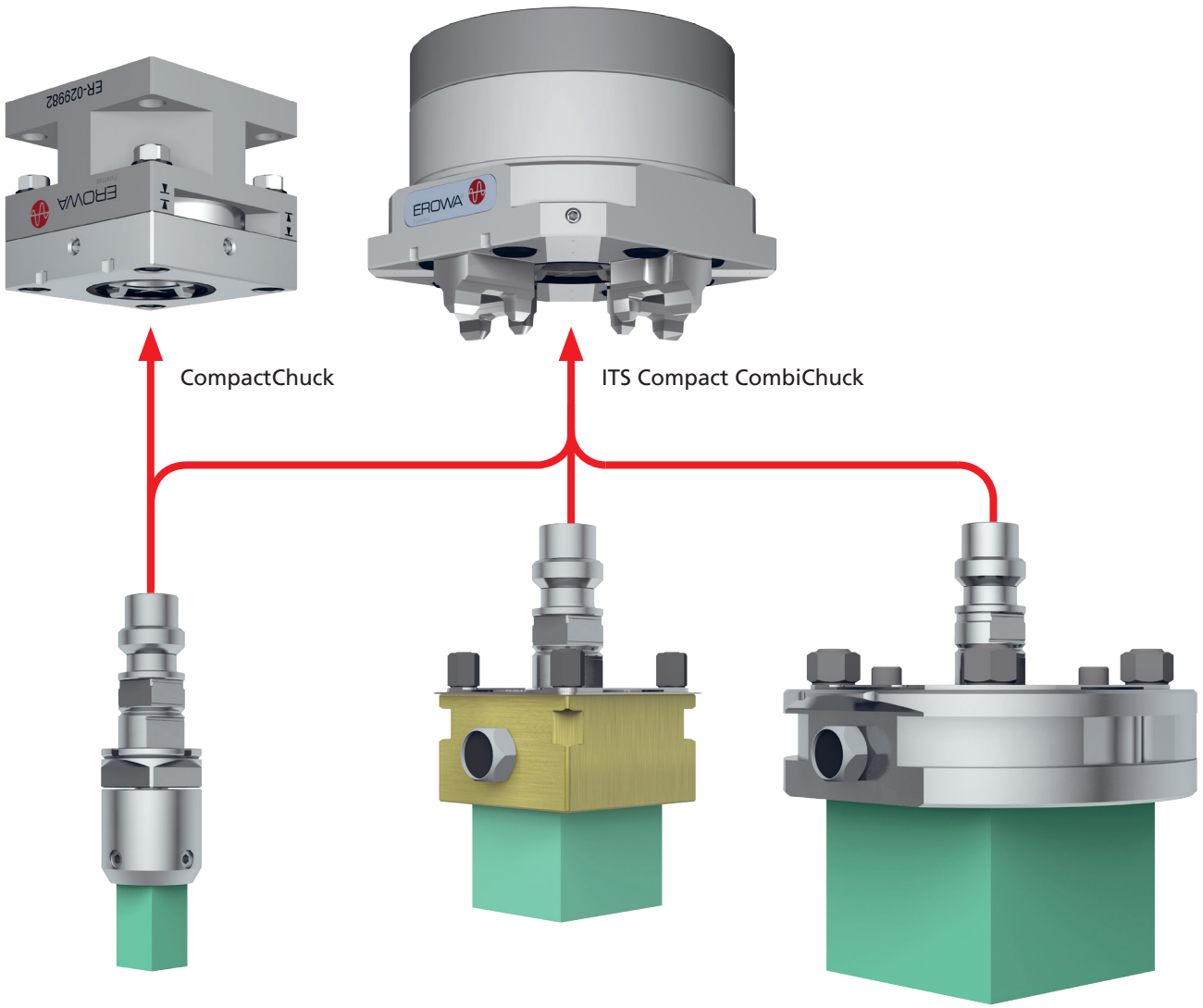
This material is packed into two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
ER-012297	Rapid-action chuck, manual, on block	1	1
ER-008458	Prism holder	1	1
ER-093999	Collet holder 50 C	1	1
ER-094180	Centering plate 50 C with washer	20	50
ER-011599	Centering plate 100 M8 with washer	5	10
ER-093765	Prisround C EWIS	12	12
ER-093774	Uniholder C EWIS	6	12
ER-093780	Uniplate C EWIS	12	12
ER-010438	Setscrew M8 x 16 for Prisround	25	25
ER-010441	Setscrew M8 x 16 for Uniholder	12	25
ER-010514	Spacer plate 0.5 mm	100	50
ER-010518	Spacer plate 1 mm	100	50
ER-010521	Spacer plate 2 mm	100	50
ER-010523	Spacer plate 3 mm	100	50
ER-010525	Spacer plate 4 mm	100	50
ER-010526	Spacer plate 5 mm	100	50
ER-103692	Hexagon socket bolt for Uniplate C	24	12
ER-010694	Sealing washers	12	24
ER-010723	Checking pin	1	1
ER-010685	Supports M5, adjustable	12	12
ER-010744	Chip guard for rapid-action chuck	1	1
ER-010753	Supports M5	100	100
ER-123194	Tools ITS C	1	1
ER-015465	Chucking spigot F/A EDM	20	20
ER-022354	Seal ring for chucking spigot	10	10
007752	M8 support foot	20	–
000999	M5 x 8 socket head bolt	20	–

EROWA ITS Compact Combi

For small electrodes and workpieces

The EROWA Compact tooling system is ideal for clamping small electrodes and workpieces. EROWA's ITS Compact Combi chucks complement the range and provide universal clamping for three systems in one single chuck. No matter whether it is on the machine table or in the workpiece quill, EROWA ITS Compact Combi chucks can be used everywhere.

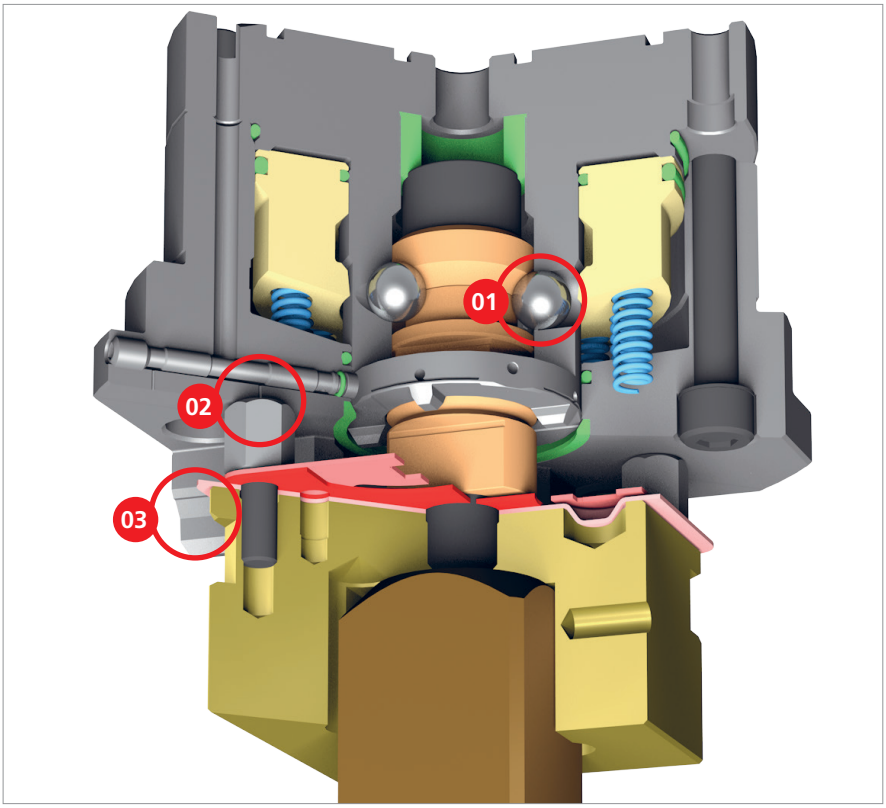


Applications

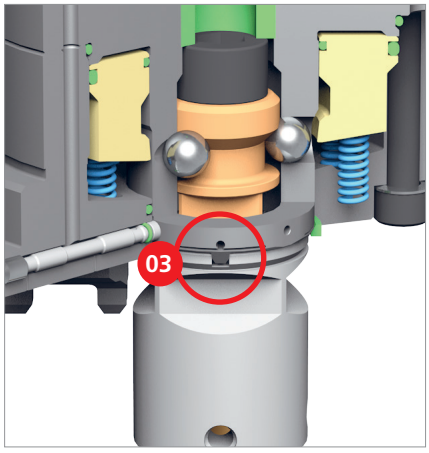
Handling

Manual / Loading facility / Robot

Function



ITS Compact CombiChuck with ITS holder.



ITS Compact CombiChuck with Compact holder.

01 | Ball-lock
The self-locking ball-lock generates a clamping power of 5,000 N and does not open even if the pressure fails.

02 | Cleaning
The support feet are cleaned during the clamping process.

03 | Prismatic spigots
After latching to the centering plate, the prismatic spigots in combination with the spring slots ensure powerful and high-precision positioning.

Technical data - ITS Compact Combi Chuck

	ITS Compact CombiChuck
System sizes	Compact, ITS 50 and ITS 100
Indexing	4 x 90°
Clamping power	3,000 N, 5,000 N with reclamping
Clamping	with spring tension (clamped without pressure)
Opening pressure	min. 6 bar (pneumatic)
Operation	with manual or electropneumatic control unit

EROWA ITS Compact Combi in action

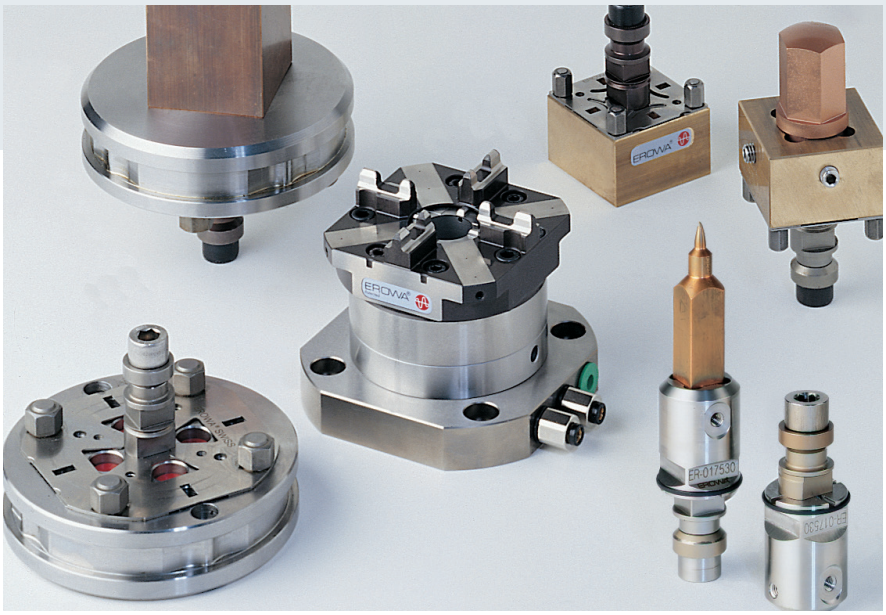
Versatile and universal

The ITS Compact Combi chucks have the same mounting hole configuration as the conventional EROWA ITS chucks and can be seamlessly integrated into the existing ITS system. The system comprises a complete range of chucks, electrode holders, electrode changers and accessories.

FACTS

- Three systems in one chuck
- Wide variety of possible applications
- Repeatability < 0.002 mm
- Workpiece carriers are divisible around 4 x 90°
- Air-cleaned Z-supports
- Can be automated

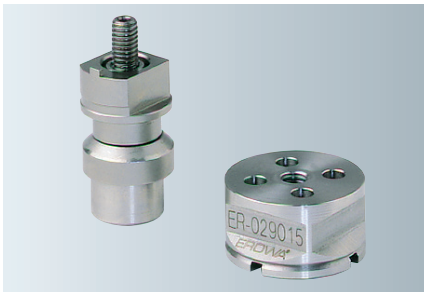




Depending on requirements, EROWA ITS Compact Combi chucks can accommodate the Compact electrode holders for small electrodes, as well as workpiece carriers from the ITS system for larger electrodes. This makes the Compact tooling system extremely flexible and universally applicable in electrode production.



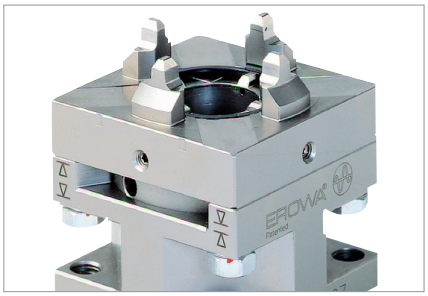
The ITS Compact Combi chuck can be universally used on the machine table or in the quill.



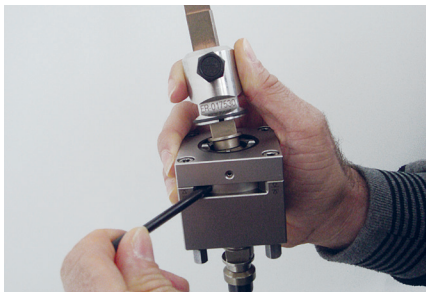
Electrodes are directly mounted onto the Compact standard holder and can be used immediately.



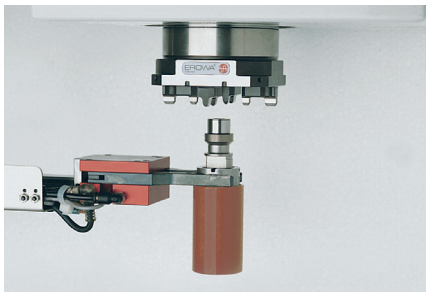
Compact electrode blanks can be placed in the Compact holders without any preparatory machining. This eliminates the machining costs for setting up the electrodes and cutting them to size.



Manually operated Compact Combi chucks: to clamp EROWA electrode holders of the Compact and ITS 50 system sizes.



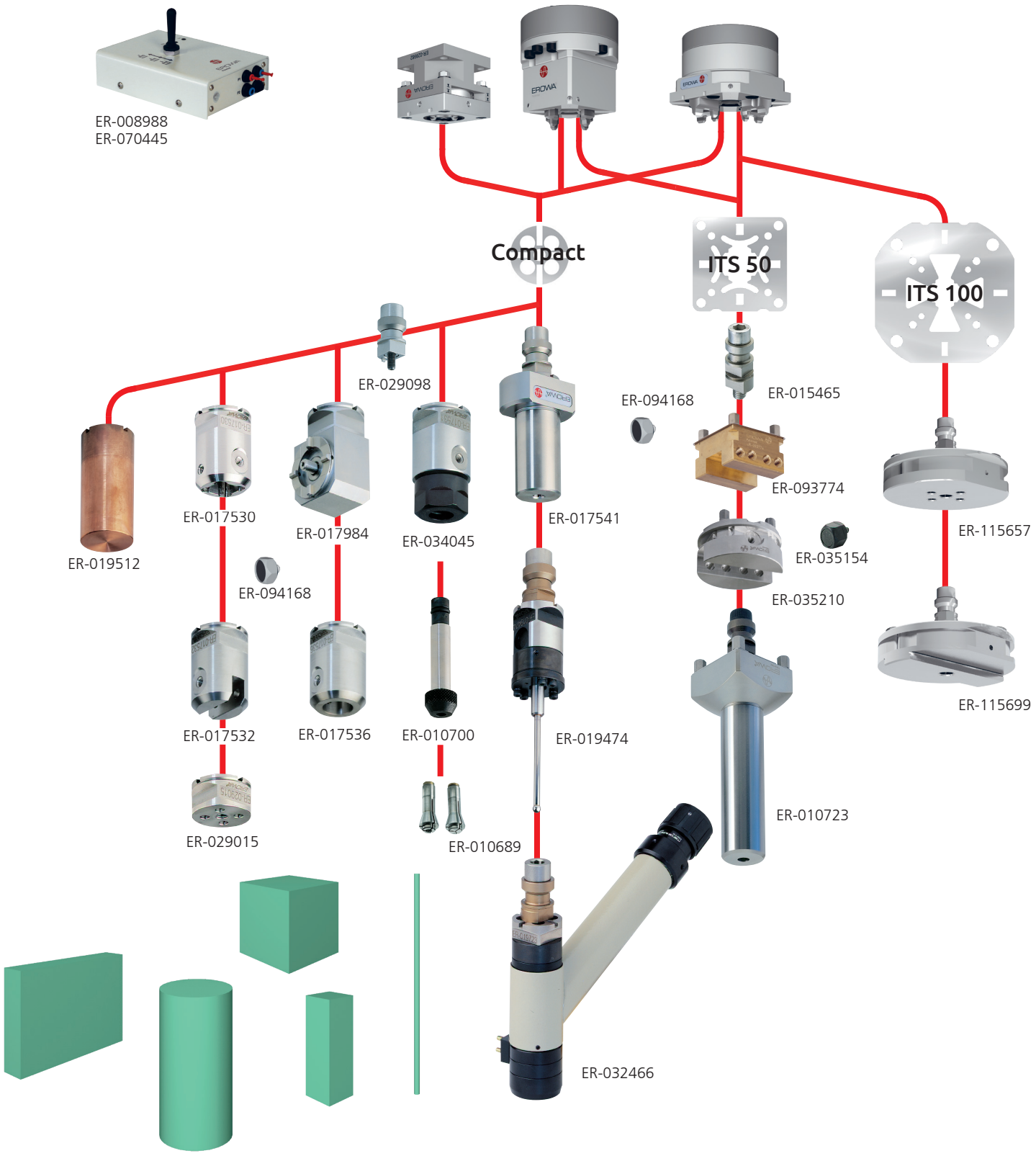
With the help of the Compact-ITS adapter, Compact electrode holders are quickly turned into regular EROWA ITS chucks. Electrode holders are manually clamped in the adapter with precision and speed.



The Compact electrode holders can be automated. The automatic loading/unloading of EDM centers increases economic efficiency to a considerable extent.

EROWA ITS Compact Combi

The components



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:


1. Manual operation


2. Operate with compressed air jet


3. Operate with manual valve


4. Operate with manual control unit



5. Operate with electro-pneumatic control unit


6. With central flushing clearance


7. Suited for submerged operation



8. Corrosion-resistant material



9. Suited for automatic operation


10. Handling with EROWA Robot gripper S


11. Handling with EROWA Robot gripper Combi


12. Handling with EROWA Robot gripper C



13. Handling with EROWA Robot gripper 72



14. Handling with EROWA Robot gripper 115



15. Handling with EROWA Robot gripper 148



16. Handling with EROWA Robot gripper RN PC 210


17. Handling with EROWA Robot gripper RCS


18. Handling with EROWA Robot gripper WGS-500



EROWA ITS COMPACT COMBI

ITS Compcat Combi	a survey	242
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For chip-removing processes


For EDM sinking


For WEDM

EROWA ITS Compact Combi

Chucks

ITS Compact chuck: pneumatic operation





Quill chuck



ER-020025



ER-020026



ER-035261



ER-035262

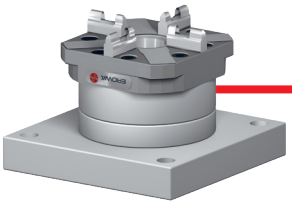


Table chuck

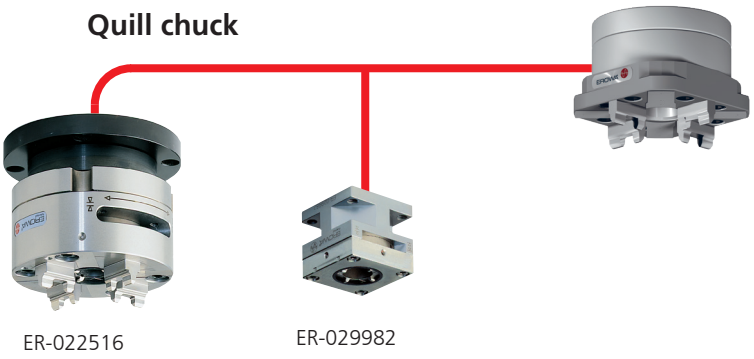


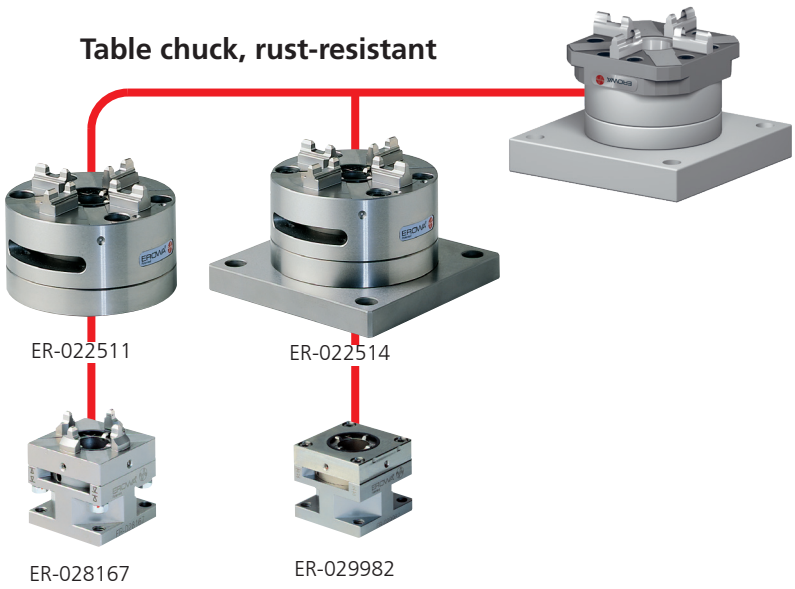
ER-020027



ER-020963

ITS Compact chuck: manual operation





EROWA ITS Compact Combi

Chuck, pneumatic

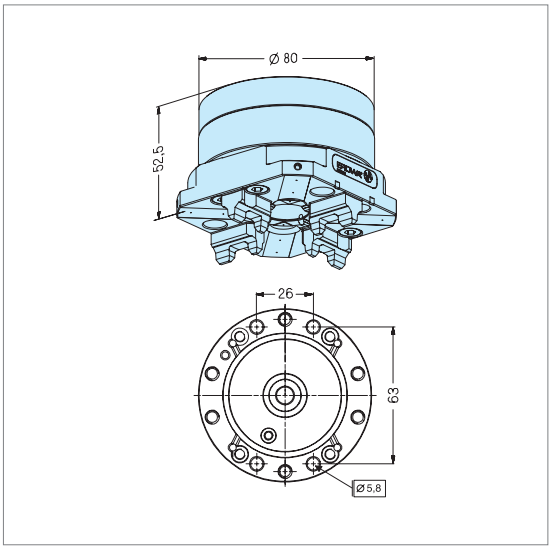
Technical data	ITS Compact CombiChuck	ITS 50 Compact CombiChuck
Repeatability	< 0.002 mm	< 0.002 mm
Indexing	4 x 90°	4 x 90°
Clamping power	3,000 N	4,000 N
Clamping power with reclamping	5,000 N	
Clamping	with spring tension	with spring tension
	(clamped without pressure)	(clamped without pressure)
Opening pressure (pneumatic)	min. 6 bar	min. 6 bar
Reclamping pressure (pneumatic)	min. 6 bar	
Operation	with manual or electro-pneumatic control unit	with manual or electro-pneumatic control unit

ER-020025 ITS Compact CombiChuck





Version	ITS rapid-action chuck with built-in CompactChuck.
Connections	At the rear.
Application	EDM centers with automatic electrode change, machine tools with automatic loading of ITS and Compact electrode holders.

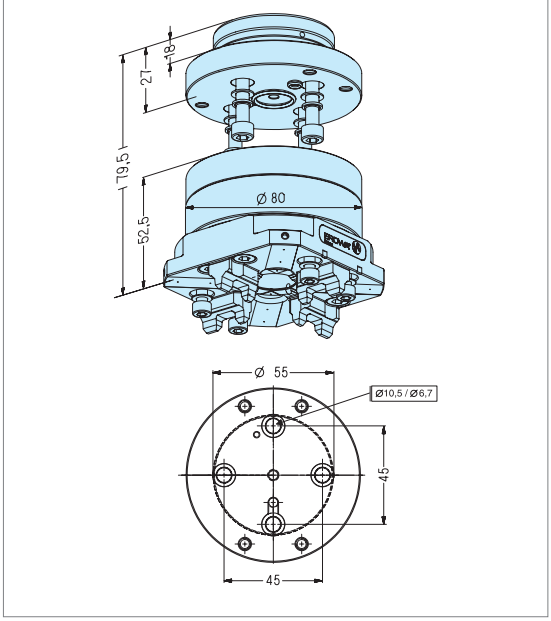


ER-020026 ITS Compact CombiChuck with collar



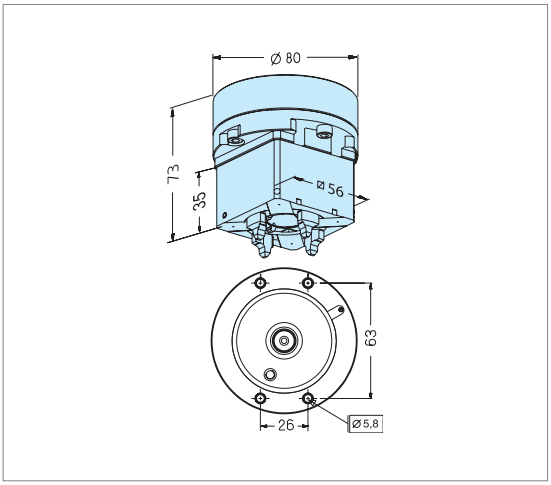


Version	With flange ø 80/55 mm for flushing connection.
Connections	At the rear.
Application	EDM centers with automatic electrode change of ITS and Compact electrode holders.



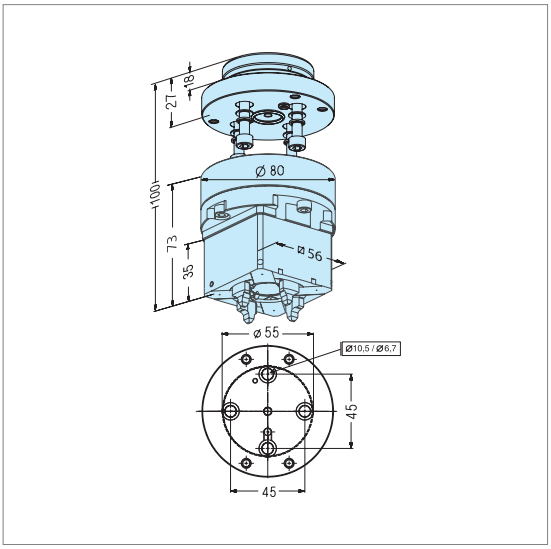
ER-035261 ITS 50 Compact CombiChuck

Version	ITS QuickChuck 50 with built-in CompactChuck.
Connections	At the rear.
Application	EDM centers with automatic electrode change, machine tools with automatic loading of ITS and Compact electrode holders.



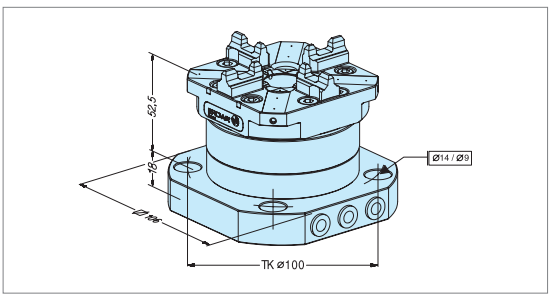
ER-035262 ITS 50 Compact CombiChuck with collar

Version	With flange ø 80/55 mm for flushing connection.
Connections	At the rear.
Application	EDM centers with automatic electrode change of ITS and Compact electrode holders.



ER-020027 ITS Compact CombiChuck with base plate

Version	With base plate 106 x 106 mm.
Connections	Laterally on base plate for manual and pneumatic control unit.
Application	On milling, grinding and EDM centers with manual and automatic loading facilities.



EROWA ITS Compact Combi

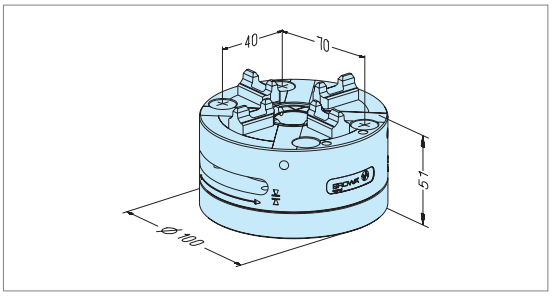
Chucks

Technical data	QuickChuck 100 Combi	QuickChuck 50 Combi
Repeatability	< 0.002 mm	< 0.002 mm
Indexing	4 x 90°	4 x 90°
Max. clamping power	up to 10,000 N	up to 4,000 N
Operation	manual	manual

ER-022511 QuickChuck 100 Combi



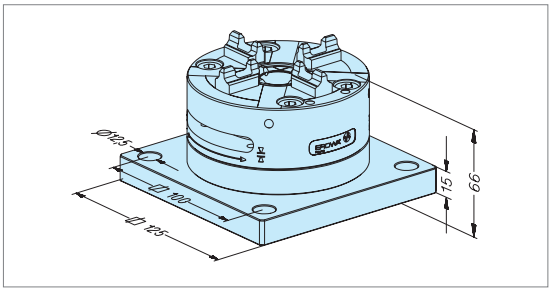
Version	Combi system for EROWA ITS and Compact.
To fit	With 4 x M8 bolts.
Operation	Manual.
Application	To clamp EROWA electrode holders and pallets of the system sizes Compact, ITS 50 und ITS 100.



ER-022514 QuickChuck 100 Combi with base plate 125 x125



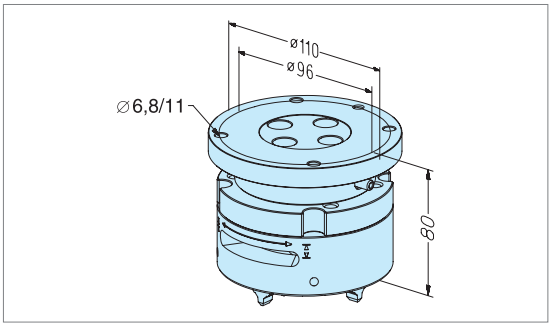
Version	Combi system for EROWA ITS and Compact with base plate.
Mounting	With bolts or brackets.
Operation	Manual.
Application	To clamp EROWA electrode holders and pallets of the system sizes Compact, ITS 50 and ITS 100.



ER-022516 QuickChuck 100 Combi R



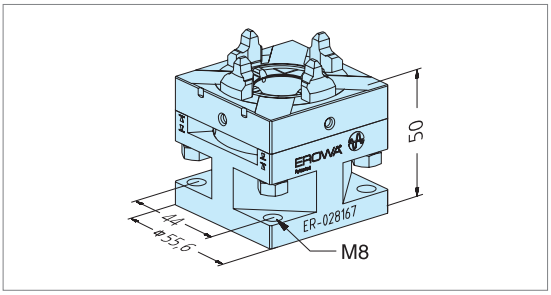
Version	Combi system for EROWA ITS and Compact with rotatable flushing connection.
Mounting	With 4 x M6 bolts.
Operation	Manual.
Application	To fit to rotating axes of EDM centers with lateral flushing connection.



ER-028167 QuickChuck 50 Combi

INOX

Version	Combi System for EROWA ITS and Compact.
Mounting	With four M8 bolts or four M6 bolts and nuts.
Operation	Manual.
Application	Clamping of EROWA electrode holders of the system size Compact and ITS 50.



EROWA ITS Compact Combi

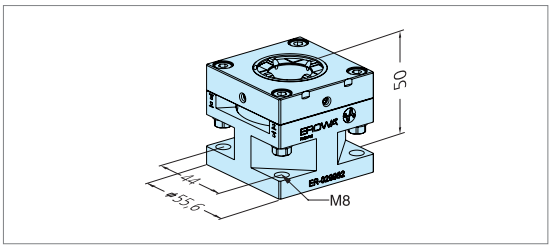
Compact chucks

Technical data	CompactChuck
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power with reclamping 6 bar (without)	5,000 N (2,200 N)
Opening with compressed air	min. 6 bar
Operation mode	PA = Pneumatic, automatic PM = Pneumatic, manual M = Manual

ER-029982 CompactChuck M



Mounting	With four M8 bolts or with four M6 bolts and nuts
Operation	Rapid-action lock with lever.
Application	Clamping of EROWA Compact electrode holders.
Note	The CompactChuck M can also be used as a quill chuck.

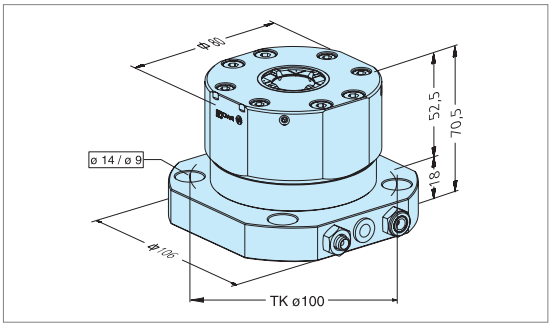


ER-020963 CompactChuck





Version	On 106 x 106 mm clamping plate.
Connections	On the side on clamping plate.
Application	On milling, grinding and EDM centers with manual operation.



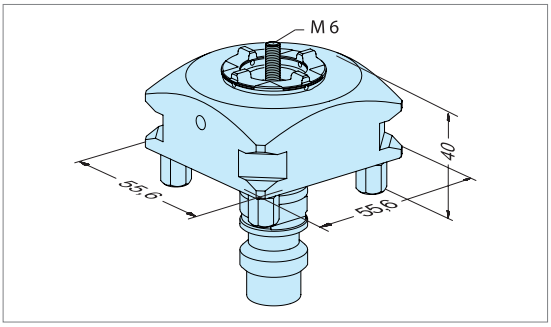
EROWA ITS Compact Combi

Compact ITS Adapter

ER-094046 Compact ITS 50 adapter C

INOX

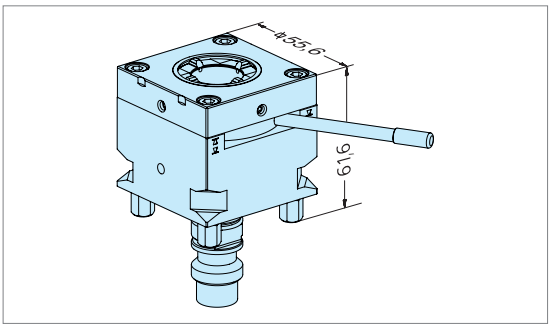
Version	ITS system size 50, lock with central locking bolt. Prepared to accommodate chip holder for EWIS chip.
Operation	Tighten central locking bolt.
Application	System adapter Compact - ITS.



ER-094063 Compact ITS adapter chuck C

INOX auto

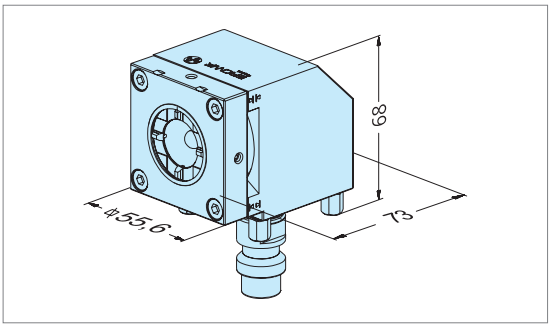
Version	ITS system size 50 C, QuickChuck action for Compact holders.
Operation	Quick locking mechanism with lever.
Application	Individual Compact chuck for machines which are equipped with standard ITS. System adapter Compact - ITS.



ER-029988 Compact ITS angle adapter

INOX auto

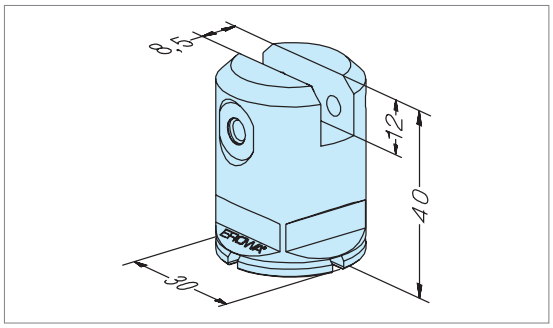
Version	ITS System size 50, QuickChuck locking mechanism of 90° angle chuck.
Operation	Quick locking mechanism with lever.
Application	System adapter Compact - ITS.



EROWA ITS Compact Combi

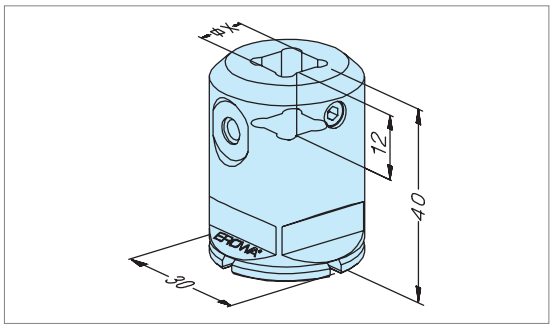
Electrode Holder

ER-017532	**Compact Uniholder 18 pieces**



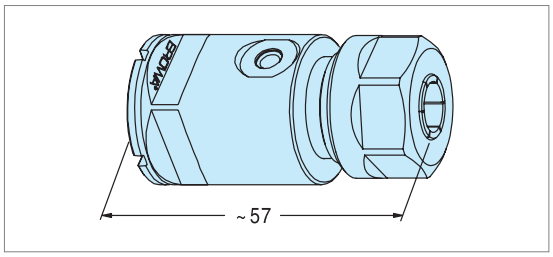
Version	Set of 18 units. Without chucking spigot.
Application	To hold blanks up to 8 mm width.
To fit blank	Insert and tighten M5 bolts.

ER-017529	**Compact Prisround 10 mm 18 pieces**
ER-017530	**Compact Prisround 15 mm 18 pieces**



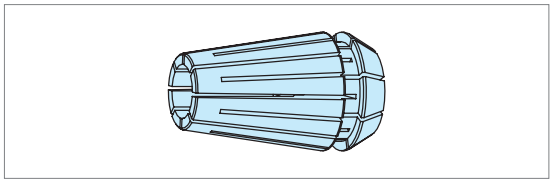
Version	Set of 18 units. Without chucking spigot.
Application	To hold blanks with shaft of up to X = 10 mm square (ER-017529), up to X = 15 mm square (ER-017530).
Mounting	Insert and tighten M5 bolts.

ER-034045	**Compact Collet Chuck Holder 1 piece**



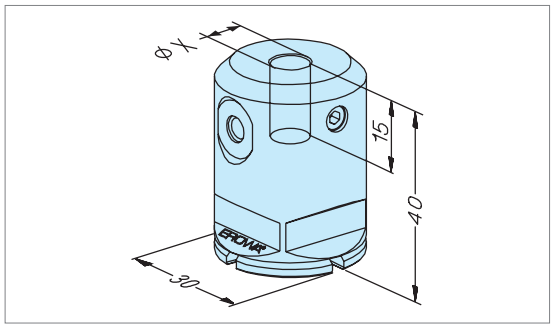
Version	One unit.
Application	To hold cylindrical parts with respective diameter.
Please note	Order collect chucks ER 16 (no INOX) separately.

ER-002394	**Collet chuck ER16 ø 2 mm**
ER-002395	**Collet chuck ER16 ø 3 mm**
ER-002396	**Collet chuck ER16 ø 4 mm**
ER-002397	**Collet chuck ER16 ø 5 mm**
ER-002398	**Collet chuck ER16 ø 6 mm**
ER-002399	**Collet chuck ER16 ø 7 mm**
ER-002400	**Collet chuck ER16 ø 8 mm**
ER-002401	**Collet chuck ER16 ø 9 mm**
ER-002402	**Collet chuck ER16 ø 10 mm**



Version	Clamping range 1 mm per collet chuck. Fits Collet Chuck Holder ER-034045. Option: Sealing ring ER-005064.

ER-017533	**Compact electrode holder 8 mm 18 pieces**
ER-017534	**Compact electrode holder 10 mm 18 pieces**
ER-017535	**Compact electrode holder 12 mm 18 pieces**
ER-017536	**Compact electrode holder 16 mm 18 pieces**



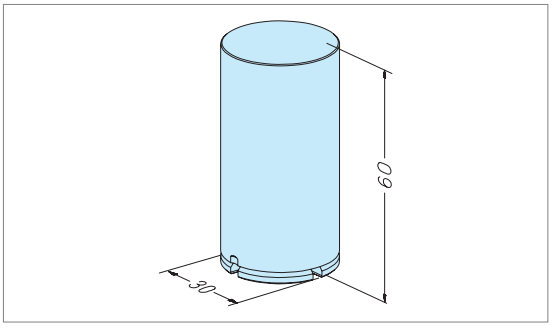
Version	Set of 18 units. Without chucking spigot.
Application	To hold cylindrical parts with respective diameter.
Mounting	Insert and tighten M5 bolts.

EROWA ITS Compact Combi

Electrodes

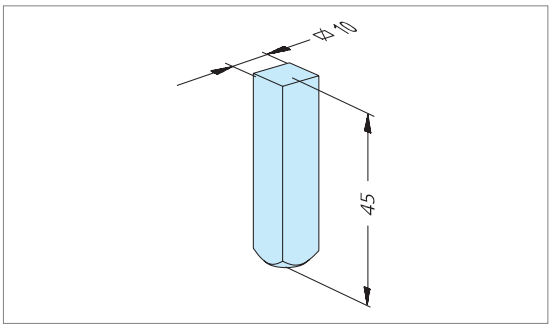
ER-019512 Compact electrode ø 30 x 60
12 pieces, without gripper groove

Version	Electrode copper. Set of 18 units. Without chucking spigot.
Application	To produce electrodes up to ø 30 mm.



ER-030161 Compact electrode 10 x 10 x 45 copper
36 pieces

Version	Electrode copper. Set of 36.
Application	Production of electrodes of up to 10 x 10 mm.



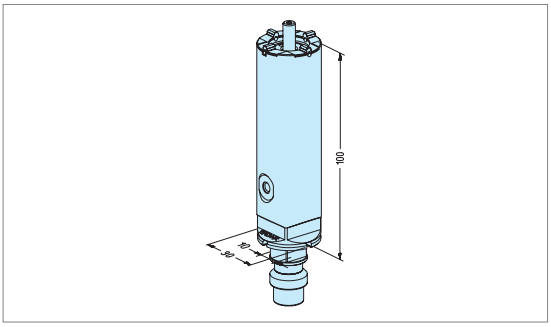
EROWA ITS Compact Combi

Accessories

ER-017982 Compact extension 100 mm

INOX

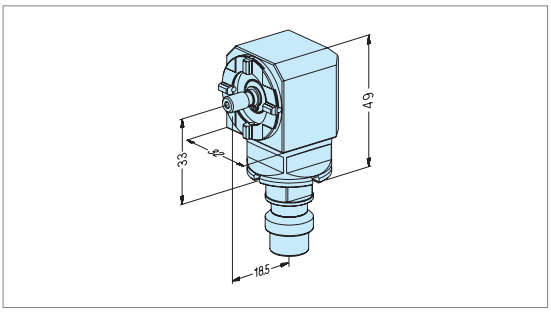
Version	Shaft ø 30 x 100 mm.
Application	Extends the electrode by 100 mm.
Operation	Lock via central bolt through shaft.



ER-017984 Compact angle chuck

INOX

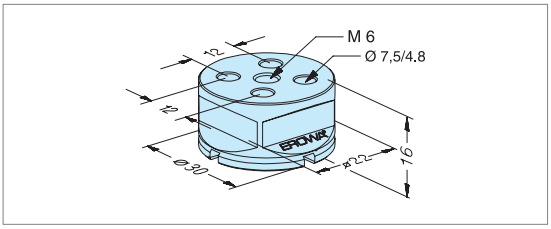
Version	Compact Chuck at 90° angle.
Operation	Central locking bolt.
Application	Change from vertical to horizontal machining position.



ER-029015 Compact standard holder H=16 20 pieces

INOX

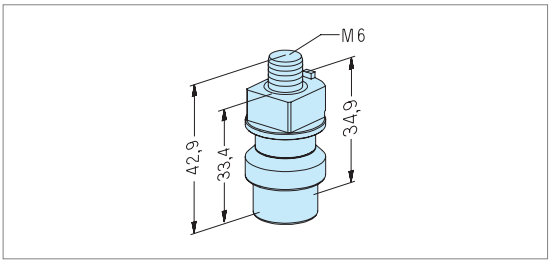
Version	Set of 20 per package, without chucking spigot.
Application	To fit electrodes and workpieces.
Note	Attach blank through the center with the chucking spigot bolt or through the holder with four M4 bolts (option ER-023125, 100 M4 x 14 socket head bolts).



ER-029098 Chucking spigot Compact Combi 20 pieces

INOX auto

Version	Set of 20.
Application	To accommodate all the compact electrodes and electrode holders in CompactChucks, ITS-Compact-CombiChucks and electrode changers. For handling with the EROWA Combi gripper.



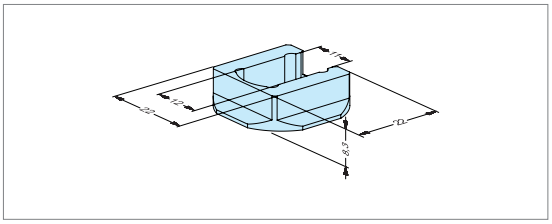
EROWA ITS Compact Combi

Accessories

ER-051968 **Chucking spigot clip open electroconductive / 20 pieces**

INOX auto

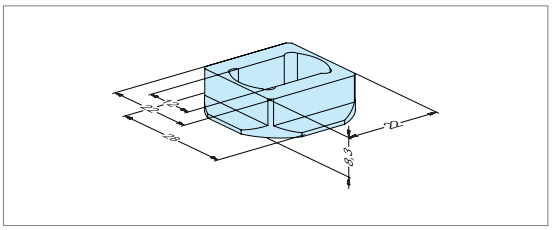
Version	Synthetic, set of 20. Electroconductive.
To be fitted	to ITS chucking spigot F/A.
Application	To fit on ITS chucking spigot F/A. To load/unload ITS electrodes and electrode holders with EROWA Combi gripper.



ER-051969 **Chucking spigot clip closed electroconductive / 20 pieces**

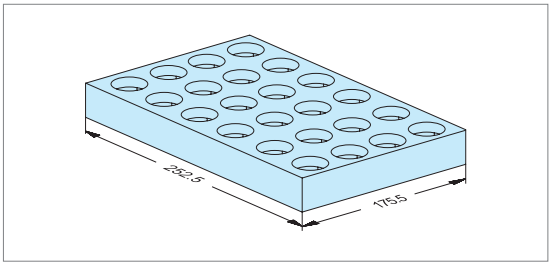
INOX auto

Version	Synthetic, set of 20. Electroconductive.
To be fitted	to ITS chucking spigot F/A.
Application	To fit to ITS chucking spigot F/A. To load/unload ITS electrodes and electrode holders with EROWA Combi gripper.



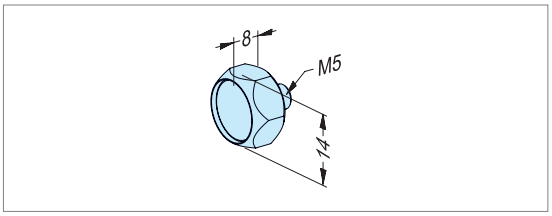
ER-020958 **Compact system stand 24-fold 10 pieces**

Version	Styrene, set of 10.
Application	Storage and transport of 24 parts each. Compact electrodes ø 30 mm, with fitted Compact chucking spigot.



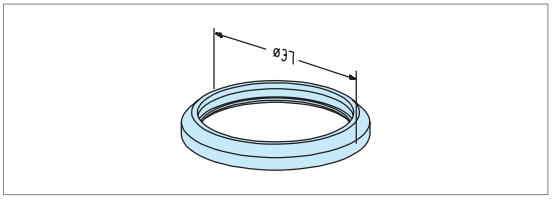
ER-094168 **EWIS™ rapid chip with holder SW14 Length 8 mm (grey)**

Version	Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application	In any EROWA electrode holder and pallet which has been prepared for it.

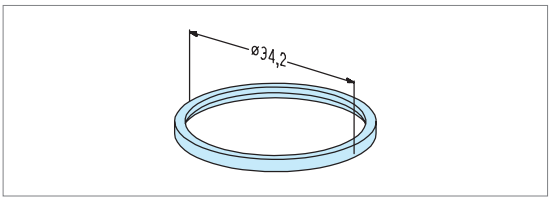


ER-022921 **Chip guard for CompactChuck 10 pieces**

Version	Rubber seal to attach to Compact ITS adapters. Set of 10.
Application	Protects Compact ITS adapter and prevents the intrusion of liquids and chips. To be used in combination with sealing ring ER-022922.

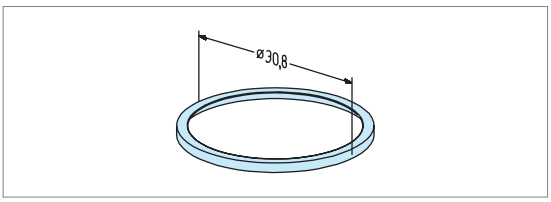


ER-022923 Chip guard for CombiChuck 10 pieces



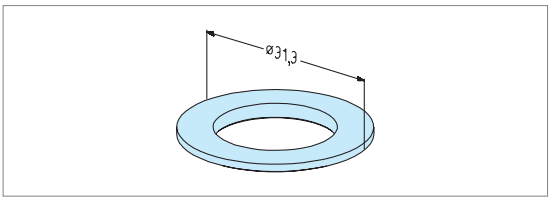
Version Plastic seal, set of 10.
Application Protects Compact chucks and prevents the intrusion of liquids and chips. To be used in combination with sealing ring ER-022922 or Combi sealing ring ER-022924.

ER-022922 Sealing ring for Compact holder 50 pieces



Version Rubber seal, set of 50.
Application To be fitted to Compact holder. In combination with chip guards ER-022921 or ER-022923, this prevents the intrusion of liquids and chips into the CompactChuck and the CombiChuck.

ER-022924 Combi sealing ring / ITS chucking spigot 20 pieces



Version Plastic seal, set of 20.
Application To be fitted to ITS chucking spigots. In combination with the chip guard ER-022923, this prevents the intrusion of liquids and chips into the CombiChuck.

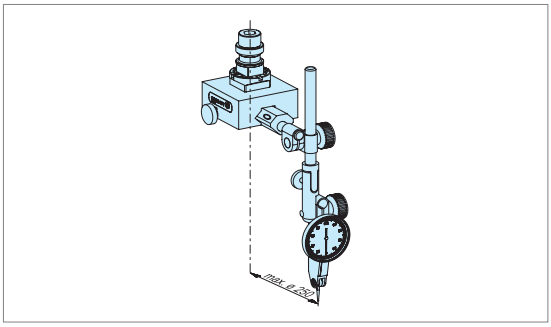
EROWA ITS Compact Combi

Measuring equipment

ER-019979 Compact centering equipment fixed

Version: Holder with slide and metric dial gauge.
Gradation: 0.01 mm.

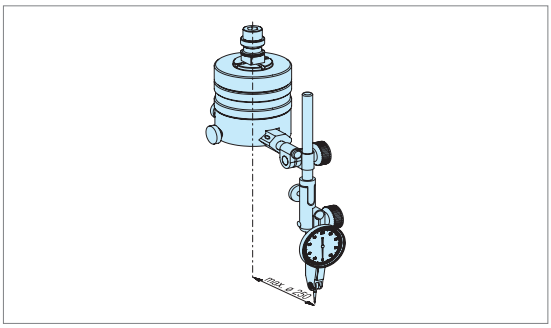
Application: Centric alignment of workpieces on machines with C-axes or rotation spindles.



ER-019951 Compact centering equipment rotate

Version: Holder with slide and metric dial gauge.
Gradation: 0.01 mm.

Application: Centric alignment of workpieces on machines without rotation axis.

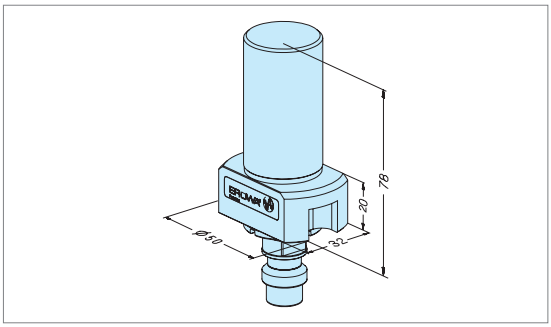


ER-017541 Compact checking pin

INOX

Version: Hardened, ground, corrosion-resistant.

Application: To align radial, axial and angular position of Compact chucks.

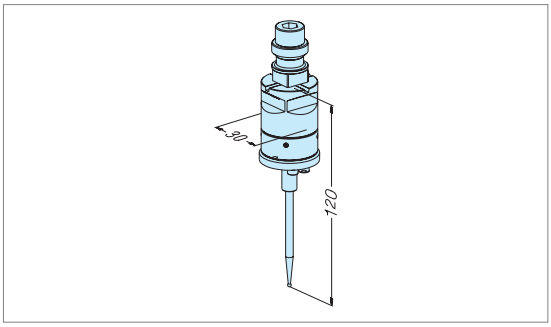


ER-019473 Compact probe with ball ø 2 mm
ER-019474 Compact probe with ball ø 5 mm

auto

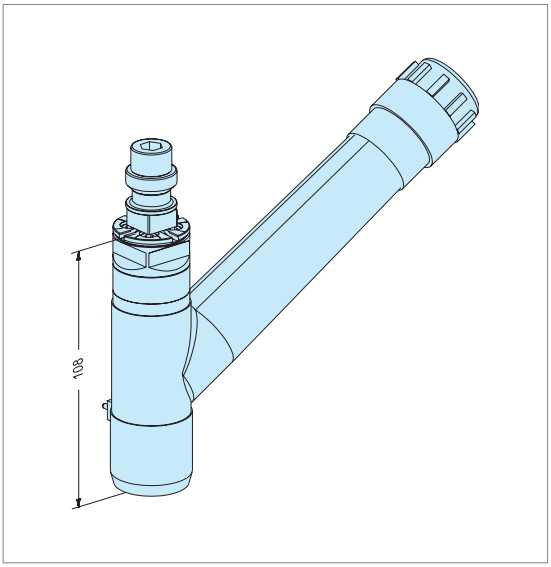
Version: Version with spring-mounted probe and carbide bolt.
Overrun protection: X-, Y-, Z-axes, 0.3 mm.
Repeatability: X-, Y-, Z-axes, 0.002 mm.

Application: Automatic measuring of workpieces in CNC EDM centers.



ER-032466 Compact Microscope

Version	Magnification: 40x Supply voltage: 12 Volt Lighting: 6 Volt Adapter: 110/220 Volt.
Application	Determination of measurements on complicated contours. The pointed checking pin serves to adjust the optic position.



EROWA ITS Compact Combi

Compact Electrode holder Set

We have compiled a helpful set for the introduction of the EROWA Compact System. Additional material, in particular consumable parts, can be ordered according to your requirements.



ER-018858 Compact Electrode holder Set

The material is packed in a practical plastic box.

Article number	Description	Number of units in the set	Number supplied according to article number
000682	Stud bolt M5 x 8	4	1
018293	Stud bolt M5 x 10	12	1
018294	Stud bolt M5 x 6	16	1
ER-017529	Compact Prisround 10 mm	4	18
ER-017530	Compact Prisround 15 mm	4	18
ER-017532	Compact Uniholder	2	18
ER-017533	Compact Electrode holder ø 8 mm	2	18
ER-017535	Compact Electrode holder ø 12 mm	2	18
ER-017536	Compact Electrode holder ø 16 mm	2	18
ER-029015	Compact Standard holder	6	20

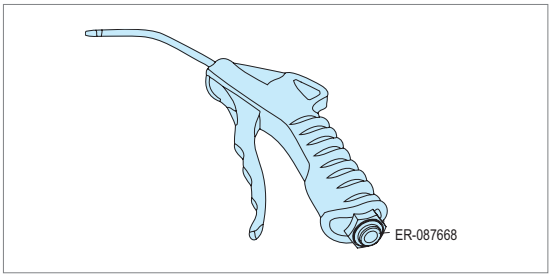
Order chucking spigots according to requirements.

ITS Compact Combi

EROWA ITS Auxiliary Equipment

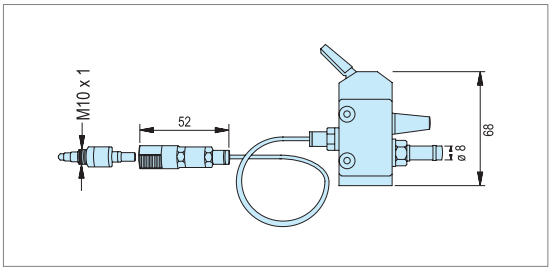
Chuck operation

ER-001846 Air jet



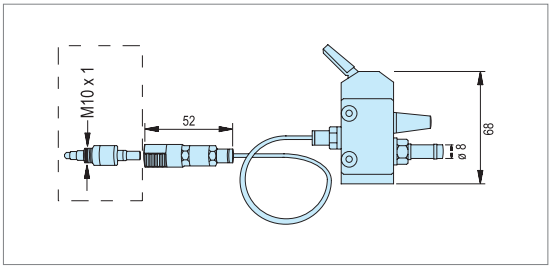
Version	Plastic, smooth regulation of air flow, connection 1/4'', inside thread.
Application	Operation of manual chucks.
Note	Not suitable for operating MTS+ and MTS81.
Option	Volume and pressure reduction to air jet (ER-087668). Pressure build up is reduced if Air Jet is not pushed against an air valve.

ER-010538 Manual valve



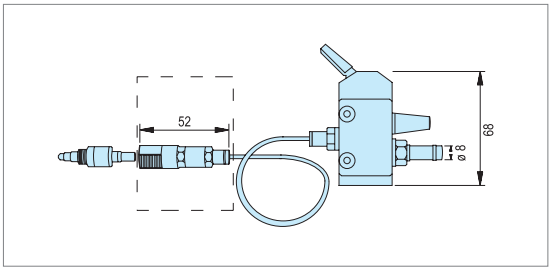
Version	Lever valve, incl. 2 m hose and coupling fittings A and B.
Application	Operation of chucks with an air connection for opening.
Note	Connecting thread M10x1.

ER-011598 Rapid-action coupling chuck side (A)



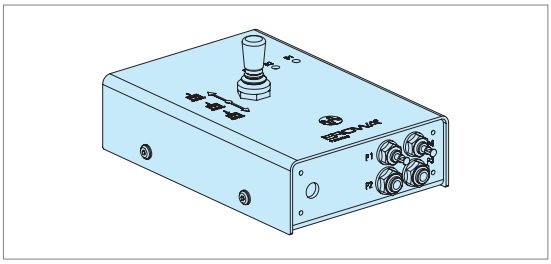
Version	Fast coupling for compressed air.
Application	Screw into a suitable EROWA chuck. Cf. manual.
Note	For connecting thread M10x1.

ER-011597 Rapid-action coupling hose side (B)



Version	Fast coupling for compressed air
Application	For use on the air supply

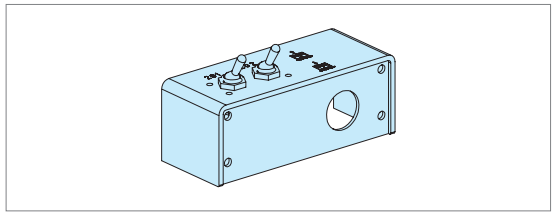
ER-008988 Manual control unit



Version	Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC: opening/reclamping/cleaning.
Application	Operation of chucks on machines.

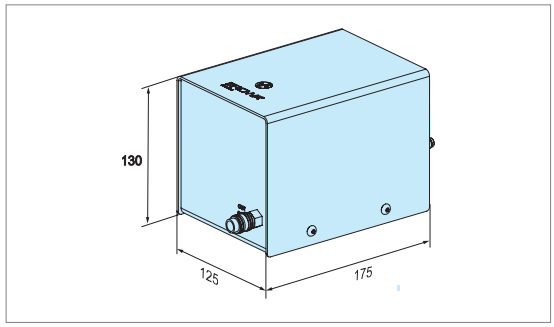
ER-039466 Additional valve double

Version	For mounting to the manual control units ER-008988 and ER-073872, incl. set of hoses.
Application	Operating of two separate chucks with one single control unit.



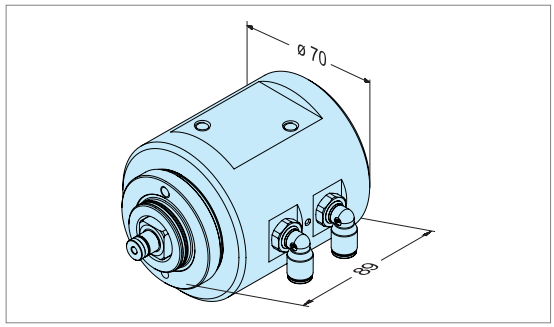
ER-074893 Pressure booster

Version	Quick-connect couplings for hose ø i = 8 mm. Compression ratio: 1:2
Application	On insufficient system pressure and on pressure fluctuations.
Installation	Integrate in air circuit near application.



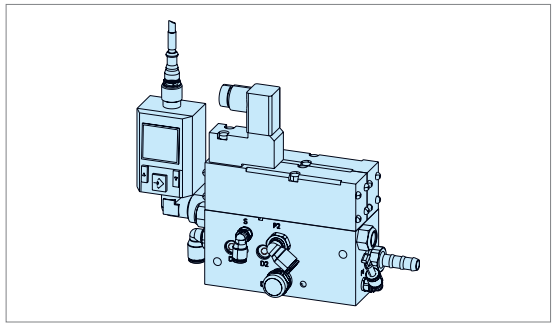
ER-011362 Twin rotatable pneumatic connector
ER-011412 Triple rotatable pneumatic connector

Version	Neutral connection flange. Three air ducts. Max. speed: 6000 rpm. Max. operating pressure: 10 bar.
Application	Air supply for ERWOA chucks on rotatable spindles.
Operation	Only operate when machine is idle.



ER-070445 Control unit with monitoring

Version	Electropneumatic valve. Outputs for chucks: opening/cleaning/reclamping. 24 V, incl. mounting accessories and 3 m connection hose.
Application	Operation and monitoring of machine-integrated chucks, for instance through the CNC M-function.

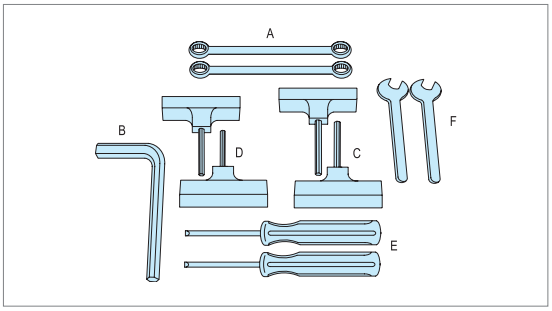


EROWA ITS Auxiliary Equipment

Toolroom accessories

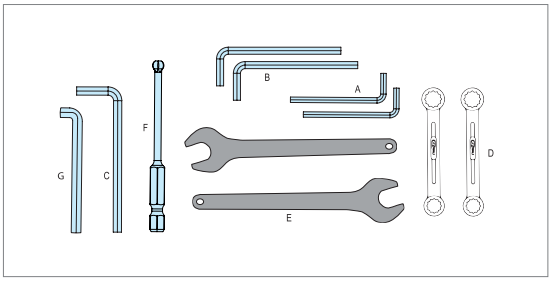
ER-010906 Set of tools

Application
A = Box wrench 8/10 mm for supporting feet M5
B = Key 8 mm for chucking spigot
C = Key with handle 4 mm
D = Key with handle 3 mm
E = Screwdriver for slotted screws in Uniplate
F = Open-end wrench 8 mm



ER-123194 Tool kit ITS C

Application
A = Hexagon key SW 3
B = Hexagon key SW 4
C = Hexagon key SW 8
D = Double-ended ring wrench SW 8/10
E = Open-ended wrench SW 8
F = Ball-point hexagon key SW5
G = Offset screwdriver SW5



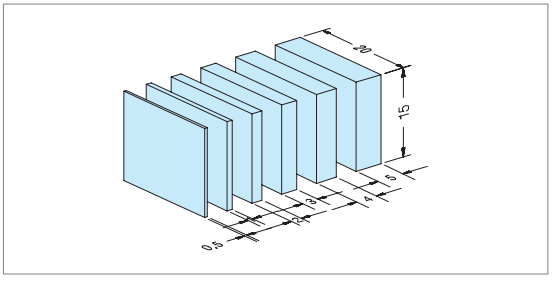
ER-011600 Torque wrench

Version Torque range 2.5 up to 25 Nm, inc. 3, 4, 5, 6 mm key and one WS 8 mm bit.
Application Service and fitting work on ITS system parts.

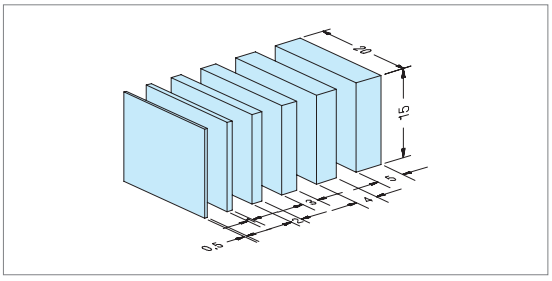


ER-010532 Spacer plate 300 pieces

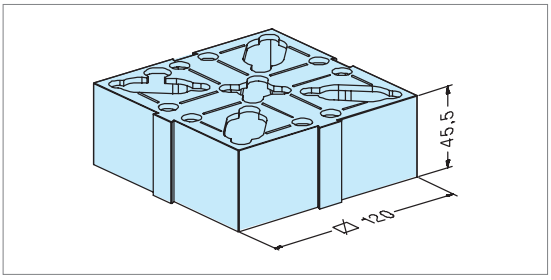
Version 6 x 50 plates. Corrosion-resistant.
Thicknesses from 0.5 mm to 5 mm.
Application Centering of blanks in electrode holders.



ER-010514	**Insert plates 0.5 mm 50 pieces**
ER-010518	**Insert plates 1 mm 50 pieces**
ER-010521	**Insert plates 2 mm 50 pieces**
ER-010523	**Insert plates 3 mm 50 pieces**
ER-010525	**Insert plates 4 mm 50 pieces**
ER-010526	**Insert plates 5 mm 50 pieces**

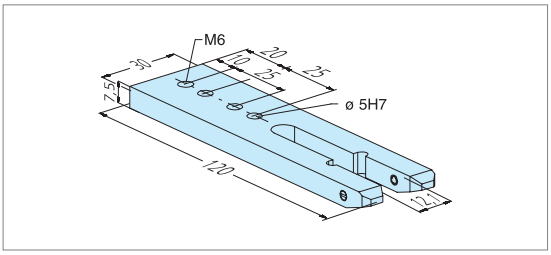


ER-013913 System stand 10 pieces



Version Plastic, set of 10.
Application As a rack for four electrode holders 50 or a pallet ø 115/148 mm.
Please note System racks can be stuck together without any gaps, e. g. to be stored in drawers.

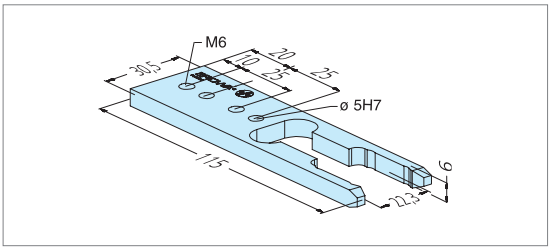
ER-010661 Carrier fork for electrode changer



Version Steel, hardened, ground.
Application To build simple electrode changers, suitable for ER-007521 and ER-007523

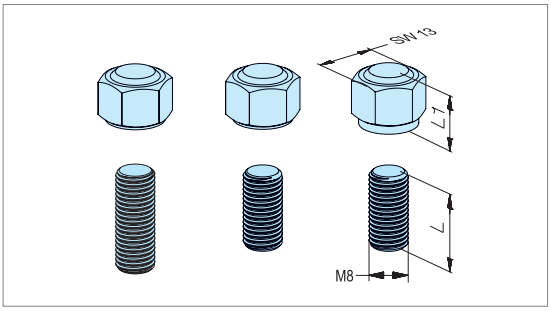
ER-024808 Pick-up fork Combi

INOX



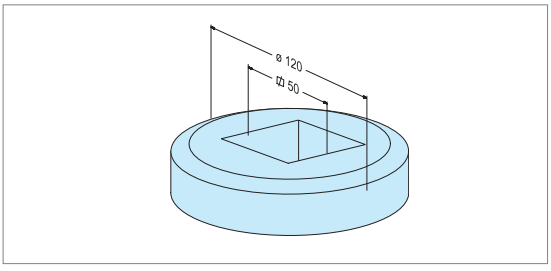
Version Corrosion-resistant steel.
Application To make simple electrode changers suitable for chucks ER-020025 and ER-020026.

ER-022457 Supporting foot SW13 / L=16/L1=11.4 20 pieces
ER-008547 Support foot SW13/L=16/L1=10.2 20 pieces
ER-008553 Support. foot SW13/L=21/L1=10.2 20 pieces



Version Supporting foot SW13, including M8 threaded pin, rust-resistant.
Application Replacement of damaged supporting feet on EROWA pallets ø 148 G and on workpieces, fixtures and gauges of your own manufacture.
ER-008553: to fit centering plate G.
ER-02247: to fit outside centering plate G on older pallet types (for instance ER-015777).
ER-008547: to fit centering plate 100 M8 punched, or to fit outside centering plate G on newer pallet types (for instance ER-115308).

ER-010744 Chip guard 50 x 50 mm, ø 120 mm for rapid-action chuck



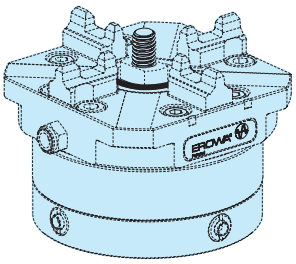
Application On Uniplate, Prisround and all other standardholders.

EROWA ITS Auxiliary Equipment

Toolroom accessories

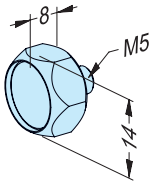
ER-022355 Sealing ring for ITS chucking spigot 50 pieces

Application: Set of 50 sealing rings. Sealing between chucking spigot and Rapid-action chuck.



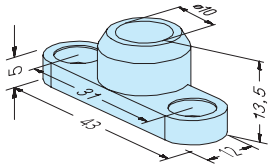
ER-094168 EWIS™ rapid chip with holder SW14 Length 8mm (grey)

Version: Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application: In any EROWA electrode holder and pallet which has been prepared for it.



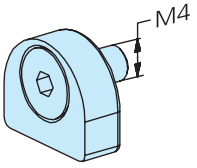
ER-035156 EWIS™ rapid chip with holder long

Version: Holder with built-in datacarrier. EWIS™ Chip: read only.
Application: With EROWA Collet Chuck holders and Square 15/25 holders.
Mounting: With supplied M4 bolts.



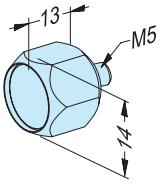
ER-035294 EWIS™ Rapid chip with chip holder RCS with chip ø 3 x 13.5mm

Version: Holder with built-in data carrier. EWIS chip: read only.
Application: To build into RCS coupling, PalletSet W holder and Basic WEDM holder.



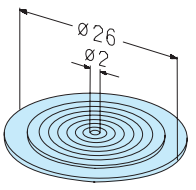
ER-035154 EWIS™ rapid chip with holder SW14 Length 13mm

Version: Sleeve fitting with built-in data carrier. EWIS Rapid chip: read only.
Application: In any EROWA electrode holder and pallet which has been prepared for it.



ER-010694 Sealing washer 24 pieces

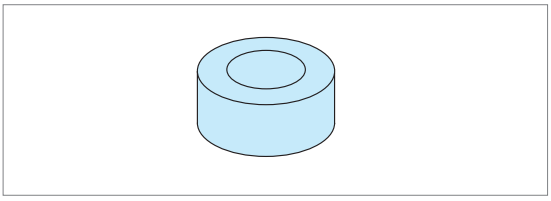
Application: Set of 24 washers. Insertion in Prisround for sealing on central flushing.



EROWA ITS Auxiliary Equipment

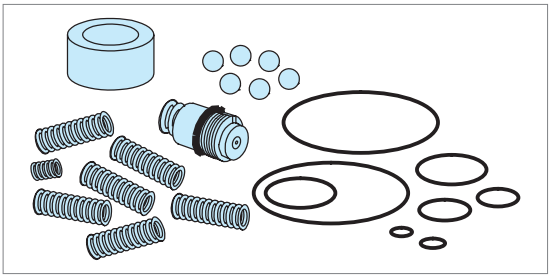
Spare parts

ER-009007 Viton sealing 18.5/12x9mm 10 pieces



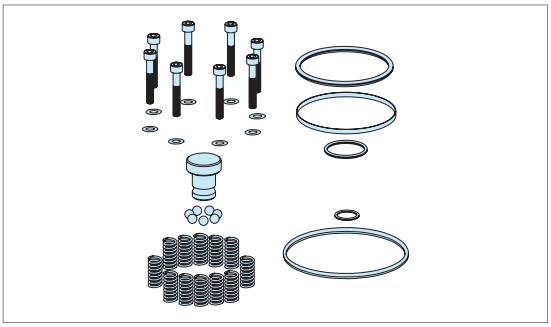
Version	Set of 10 seals.
Application	To fit ITS rapid-action and power.

ER-013062 Repair kit for ITS chuck
ER-015985 Repair kit for ITS chuck INOX



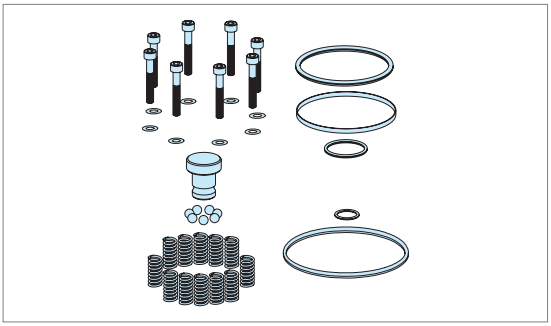
Version	All the wear parts of ITS rapid-action chucks.
Application	Dismantle chuck according to instructions supplied, replace parts.
Please note	Every chuck is supplied with instructions. Please keep in a safe place.

ER-047574 Repair kit ITS chuck 100 P



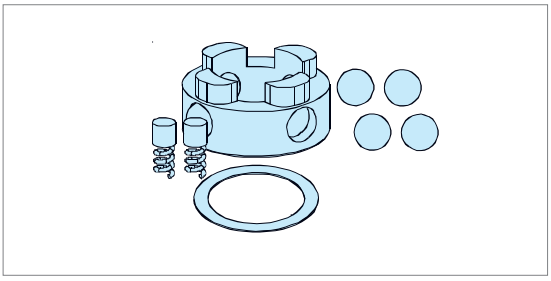
Version	All the wear parts of ITS chucks ER-037970 and ER-035519.
Application	Dismantle chuck according to instructions supplied, replace parts.
Please note	Every chuck is supplied with instructions. Please keep in a safe place.

ER-047575 Repair kit ITS chuck 100 P Inox



Version	All the wear parts of ITS chucks ER-043123 and ER-043124.
Application	Dismantle chuck according to instructions supplied, replace parts.
Please note	Every chuck is supplied with instructions. Please keep in a safe place.

ER-043353 Repair kit QuickChuck 100P

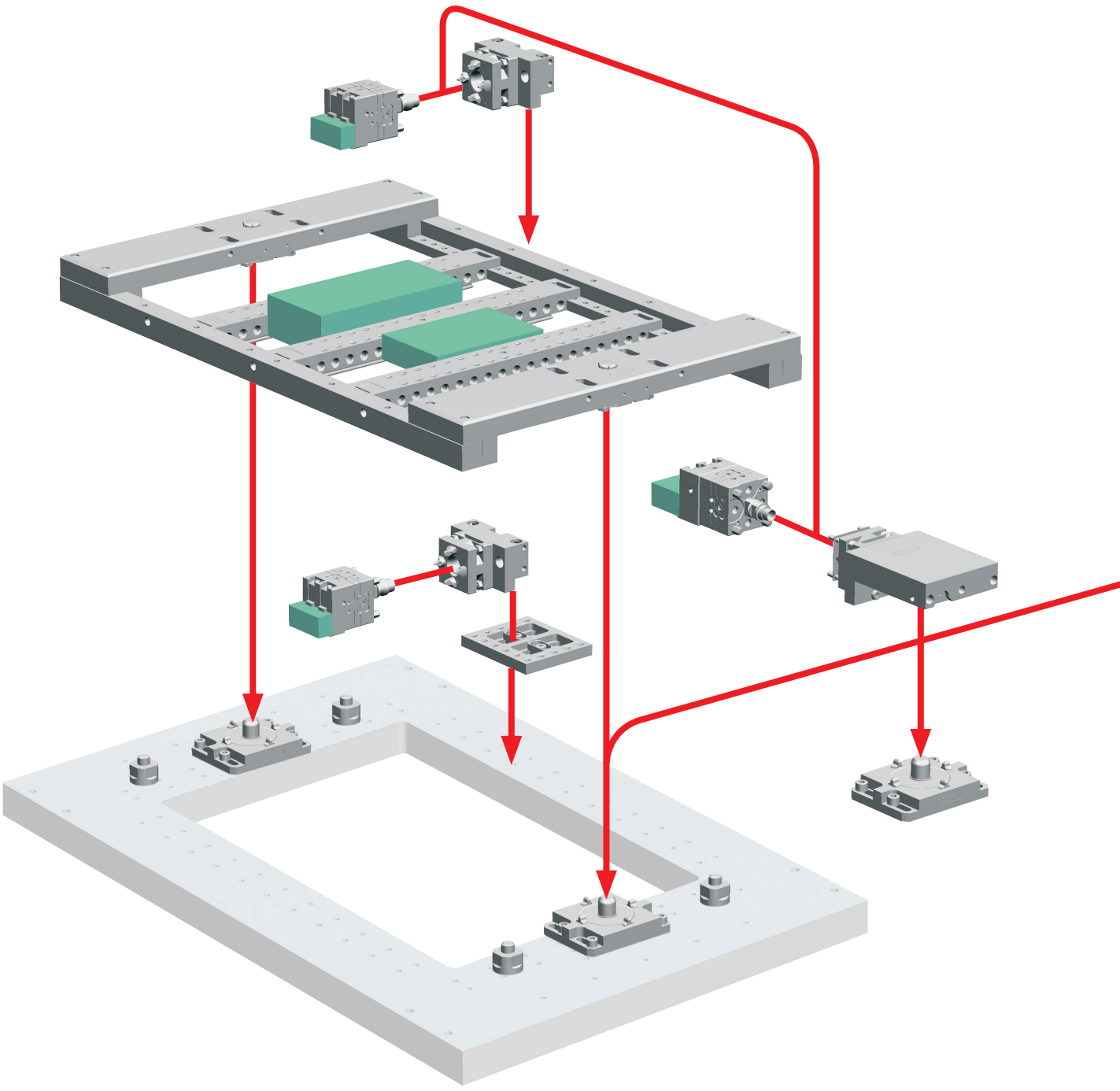


Version	All the wearing parts for QuickChuck 100P, ER-036345, ER-038824 and others.
Application	Dismantle chuck according to instructions supplied, replace parts.
Please note	Every chuck is accompanied by an instruction manual. Please keep it in a safe place.

EROWA Wire EDM Tooling

The modular tooling system for WEDM purposes

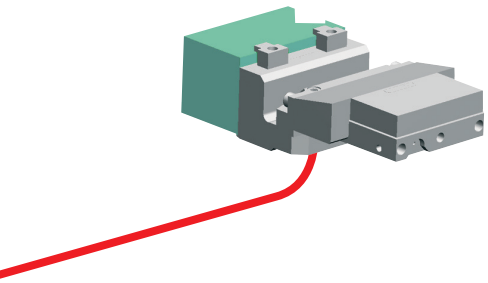
EROWA tooling systems make WEDM centers considerably more flexible and productive. Down-times can be virtually eliminated. The machines can work round the clock.
Our program contains system components for newcomers, for those who would like to extend the use of ITS, and for top-end users. You define the framework and you are bound to win.



Applications

Handling

Manual / Loading facility / Robot



Technical data - Wire EDM Tooling

	Flat clamping chuck		Chuck RSA 50	QuickChuck 50 RSM
	pneumatic	manual		
Repeatability	< 0.002 mm	< 0.002 mm	< 0.002 mm	< 0.002 mm
Indexing			4 x 90°	4 x 90°
Clamping power	with reclamping	without reclamping		
	7,000 N	3,000 N	2,800 N	4,000 N
Clamping process	Spring tension	manually	Spring tension	Spring tension
Opening, compressed air	min. 6 bar		min. 6 bar	
Operation	pneumatically	manually	pneumatically	manually
Max. weight of pallet	30 kg	30 kg		
	(with support)	(with support)		

EROWA Wire EDM Tooling

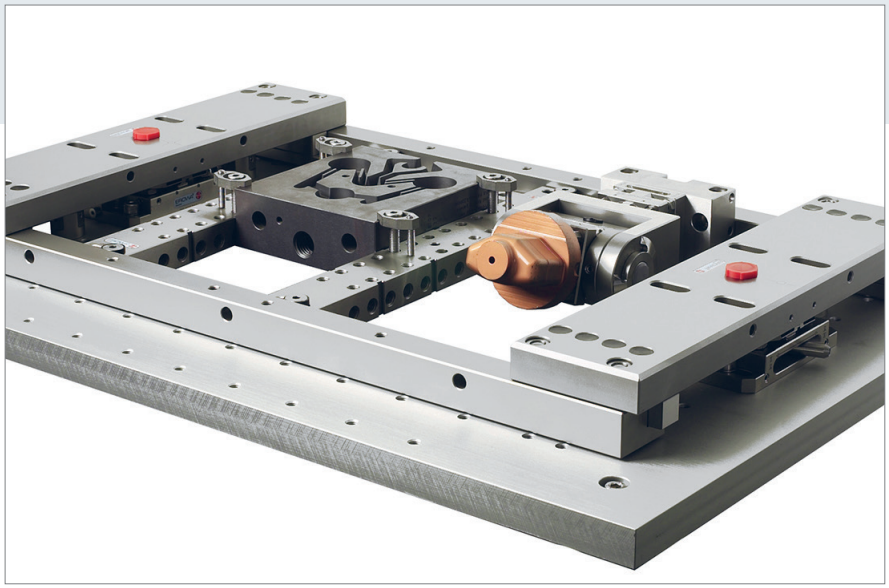
Quick and precise resetting

With well-thought-out combinations of vises, clamping elements and clamping beams, any conceivable workpiece can be clamped. The repeatability of EROWA's Wire EDM tooling system allows for workpieces to be preset outside the machine and for safe automatic loading. Ongoing jobs can be interrupted for express jobs and then continued later.

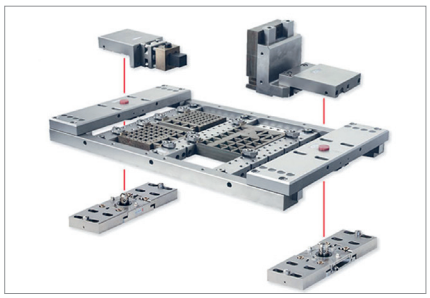


FACTS

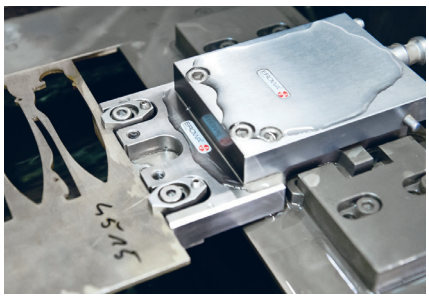
- Modular tooling system
- Single-part and multiple-part palletizing
- Clamping element repeatability of < 0.002 mm
- WEDM basis kits for all commonly used WEDM machines
- Can be automated with EROWA handling facilities



Multiple-part palletizing in the clamping frame.
The workpieces to be machined are attached to clamping beams which are individually placed in a clamping frame. In this way, workpieces of various dimensions are positioned in the same clamping frame, and a variety of jobs can be completed in the same clamping process.



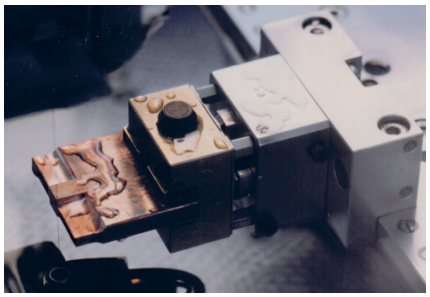
EROWA flat chucks on the machine table constitute the flexible interface for single-part palletizing or for multiple-part palletizing in a clamping frame.



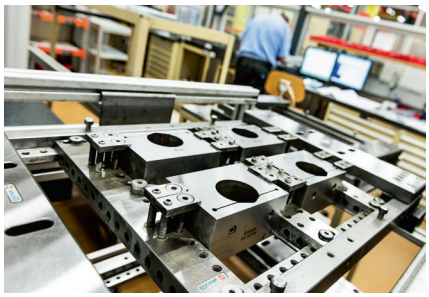
Everything fits - there are suitable and flexible clamping elements for every size and type of workpiece. The workpiece to be machined is attached to the clamping element with brackets.



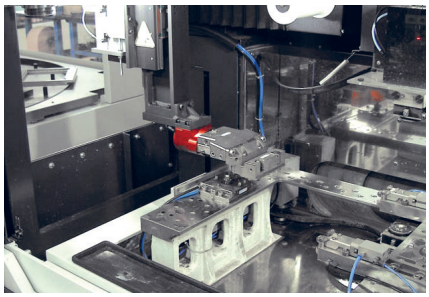
The prism clamping element for cylindrical parts. When fitted to the pendulum holder, the workpiece can be adjusted in three axes.



EDM electrode holders can also be integrated into the EROWA Wire EDM tooling system with speed and precision, and without a hitch.



The next job is prepared while the machine is productively at work. Machining time is substantially reduced since no set-up work has to be done on the machine.



Thanks to the fact that WEDM machines are loaded/unloaded automatically, the proportion of productive hours is substantially boosted. We'll be glad to provide you with advice for a suitable EROWA automation solution.

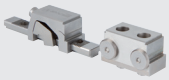
EROWA Wire EDM Tooling

The components

Clamping elements
for fixtures

ER-033958 

ER-031952 

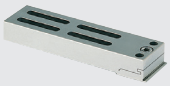
ER-062788 

ER-008231 

ER-008875 

ER-008873 

ER-007990 

ER-008220 

Fixtures
for adapters

ER-018940 

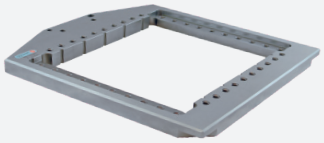
ER-019248 

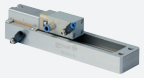
ER-031179 

ER-031945 

ER-017645 

ER-030110 

ER-018941 

ER-025115 

Adapters
for interfaces

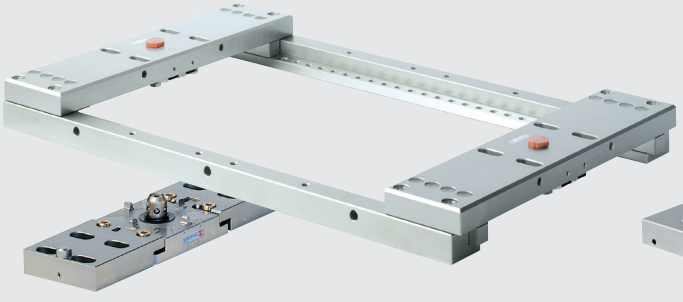
ER-041179 

ER-035294 

ER-035156 

ER-033955 

ER-031942 

ER-039214 

ER-037888 

ER-055158 

Interfaces
to machine table

ER-040641 



ER-008221



ER-029229



ER-029228



ER-025895



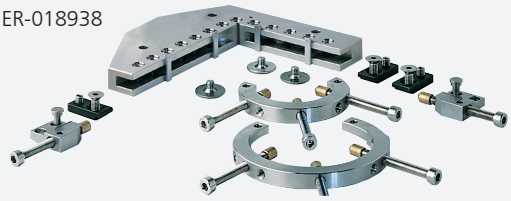
ER-054922



ER-038891



ER-018938



ER-018937



ER-055774



ER-051800



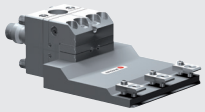
ER-008814



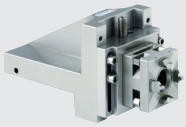
ER-008842



ER-052091



ER-038710



ER-033974



ER-007935



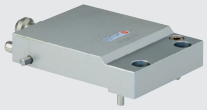
ER-008856



ER-016691



ER-030678



ER-039795



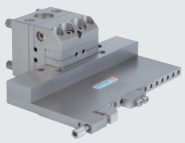
ER-014722



ER-014698



ER-055535



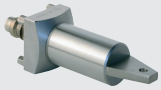
ER-030923



ER-033933



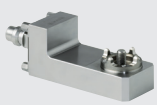
ER-012727



ER-007877



ER-038711



ER-028471



ER-035714



ER-035715



ER-017198



ER-007852

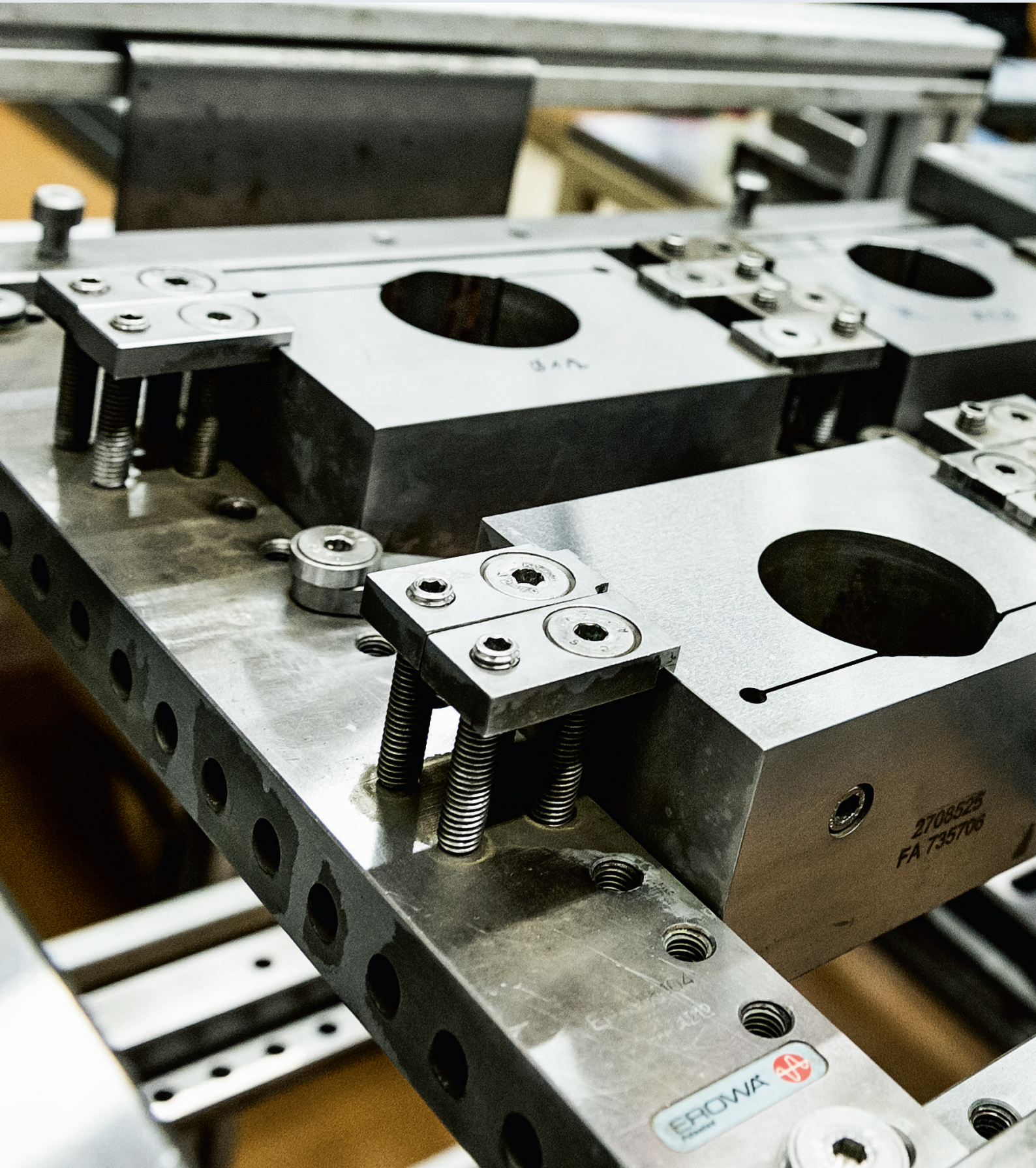


ER-022583



EROWA Wire EDM Tooling

Tooling System



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:


1. Manual operation


2. Operate with compressed air jet


3. Operate with manual valve


4. Operate with manual control unit



5. Operate with electro-pneumatic control unit


6. With central flushing clearance


7. Suited for submerged operation



8. Corrosion-resistant material



9. Suited for automatic operation


10. Handling with EROWA Robot gripper S


11. Handling with EROWA Robot gripper Combi


12. Handling with EROWA Robot gripper C



13. Handling with EROWA Robot gripper 72



14. Handling with EROWA Robot gripper 115



15. Handling with EROWA Robot gripper 148



16. Handling with EROWA Robot gripper RN PC 210


17. Handling with EROWA Robot gripper RCS


18. Handling with EROWA Robot gripper WGS-500



EROWA WIRE EDM TOOLING

Wire EDM Tooling	Interfaces to machine table	274
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Wire EDM Tooling	Clamping elements for fixtures	292
Wire EDM Tooling	System accessories	295
Wire EDM Tooling	Wire EDM Tooling Kits	300
Wire EDM Tooling	Clamping equipment sets	302


For chip-removing processes


For EDM sinking


For WEDM

EROWA Wire EDM Tooling

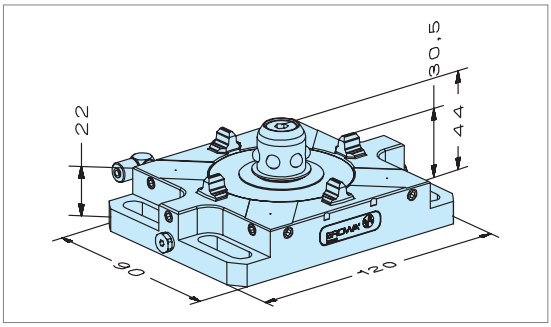
Interfaces to machine table

Technical data	Flat chuck pneumatic	Flat chuck manual	Basic WEDM chuck manual
Repeatability	< 0.002 mm	< 0.002 mm	< 0.002 mm
Clamping power	with reclamping 7,000 N	without reclamping 3,000 N	without reclamping 8,000 N
Generated by	spring power	mechanic	mechanic
Opening with compressed air	min. 6 bar		
Operation	pneumatic	manual	manual
Max. pallet weight	30 kg (with support)	30 kg (with support)	15 kg (with support)

ER-035714 Flat chuck pneumatic PalletSet W / FrameSet



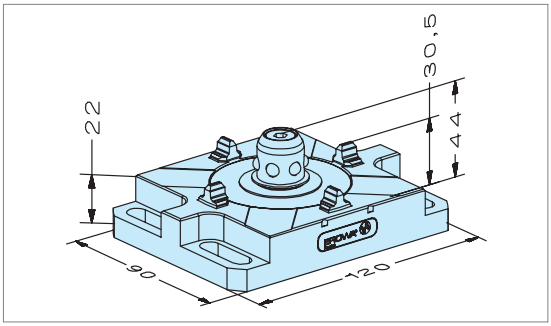
Version	Pneumatic chuck for a direct fit to the Z = 0 base of the WEDM center.
Application	On WEDM centers with manual or automatic workpiece loading.
Connections	On the side for opening, cleaning, reclamping.



ER-035715 Flat chuck manual PalletSet W / FrameSet



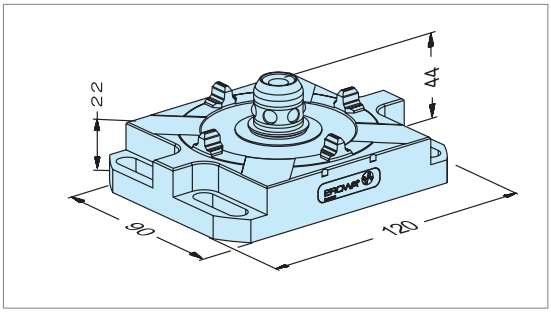
Version	Mechanical chuck for a direct fit to the Z = 0 base of the WEDM center.
Application	On WEDM centers with manual workpiece loading.
Operation	With a manually operated ball lock.



ER-040641 Basic WEDM chuck Basic Tooling



Version	Mechanical chuck for a direct fit to the Z = 0 base of the WEDM center.
Application	On WEDM centers with manual workpiece loading.
Operation	With a manually operated ball lock.

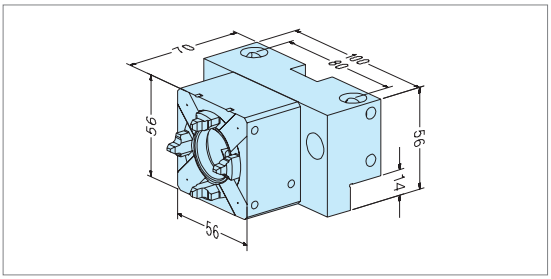


Technical data	Chuck RSA 50	QuickChuck 50 RSM
Repeatability	< 0.002 mm	< 0.002 mm
Indexing	4 x 90°	4 x 90°
Clamping power	2,800 N	4,000 N
Clamping	Spring power	mechanical
Opening with compressed air	min. 6 bar	
Operation	pneumatic	manual

ER-007851 Chuck 50 RSA / on universal plate UnoSet

INOX auto

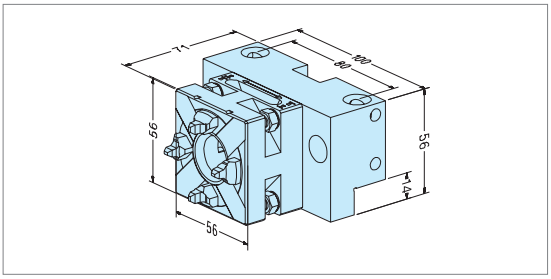
Version: Automatic, with pneumatic valve.
Application: ITS base for the manual or automatic loading of ITS elements.
Use: On all machine bases and FrameSet beams.
Can be used either horizontally or vertically.



ER-007852 QuickChuck 50 RSM / on universal plate UnoSet

INOX

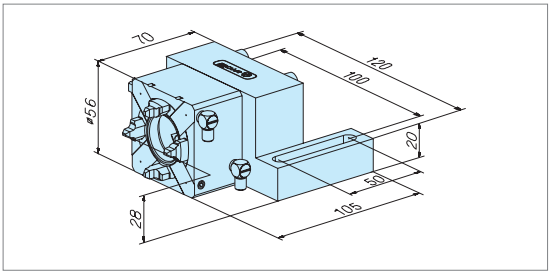
Version: Manual.
Application: ITS base for the manual loading of ITS elements.
Use: On all machine bases and FrameSet beams.
Can be used either horizontally or vertically.



ER-022583 Clamping chuck 50 RSA / UnoSet on adapter plate R=100 mm

INOX auto

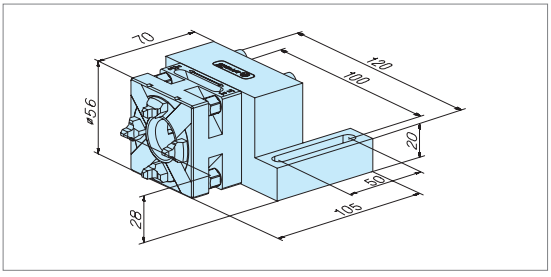
Version: Chuck 50 on adapter plate, manual.
Application: To be fitted directly to any machine bases with attachment boreholes in a 100 mm grid.



ER-022584 QuickChuck 50 RSM UnoSet on adapter plate R=100 mm

INOX

Version: Chuck 50 on adapter plate, manual.
Application: To be fitted directly to any machine bases with attachment boreholes in a 100 mm grid.



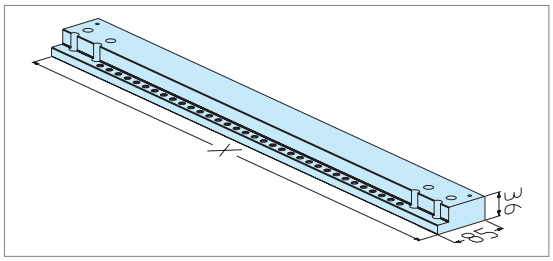
EROWA Wire EDM Tooling

Interfaces to machine table

ER-012847 ManoSet rail L length 947 mm XXL 1 piece

INOX

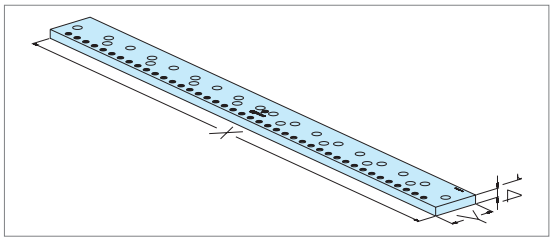
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 947 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Charmilles CTFI60++ and Sodick AQ 750 L.



ER-035690 ManoSet rail P 890 mm XXL

INOX

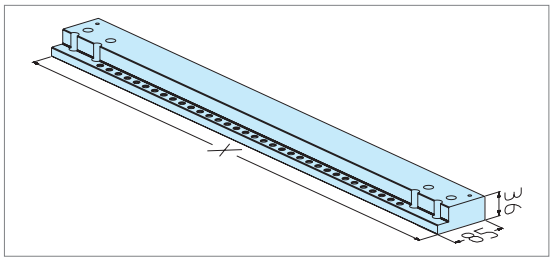
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 890 mm, Y = 75 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Sodick AQ 750 L and Makino SP 64.



ER-038985 ManoSet rail L Length 850 mm XXL

INOX

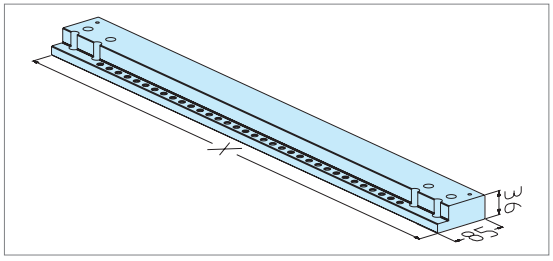
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 850 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Makino EU 64 and SP 64.



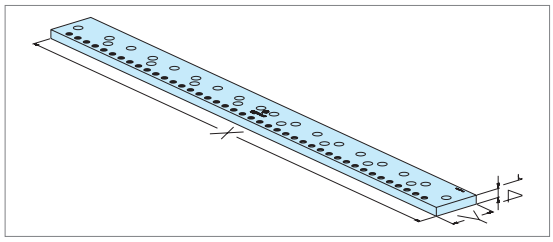
ER-041430 ManoSet rail L Length 1010 mm XXL

INOX

Version	Supplied: 1 unit. Rail for large WEDM centers. X = 1010 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Makino U86 and Seibu M 750.

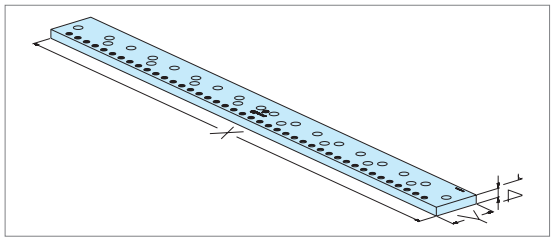


ER-042904 ManoSet rail P length 890 mm XXL 1 piece



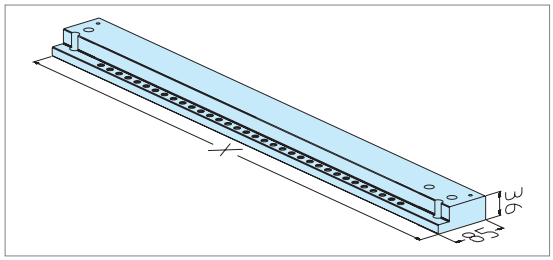
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 890 mm, Y = 75 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Charmilles CT FI 640cc, CT FI 690, GFMS Cut 400 / Cut 30P and ONA AE 600.

ER-043487 ManoSet Beam P length 860 mm XXL 1 piece



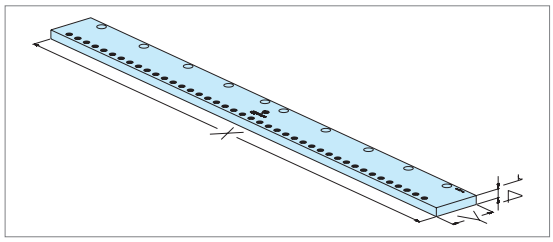
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 860 mm, Y = 50 mm.
Mounting	Directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 283).
Note	ManoSet rail XXL suitable for Mitsubishi FX 30 / FA30, CT FI6050, Makino SP64, Makino DUO 64/U6.

ER-069834 ManoSet rail L length 1050 mm Sodick AQ900L



Version	Units supplied: 1 Rail for big WEDM machines. X = 1050mm.
To be fitted	Directly to machine base Z-Zero.
Application	Clamping of big workpieces with XXL clamping beam 540, ER-037307, or clamping beam 620, ER-034989 (cf. p. 283).
Information	ManoSet rail XXL, suitable for Sodick AQ900L.

ER-069835 ManoSet rail P length 950 mm Sodick AQ900L

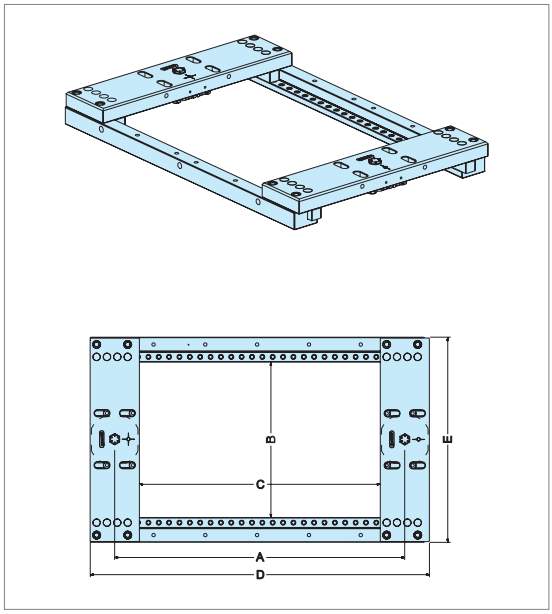


Version	Units supplied: 1 Rail for big WEDM machines. X = 947mm, Y = 50mm,
To be fitted	Directly to machine base Z-Zero.
Application	Clamping of big workpieces with XXL clamping beam 40, ER-037307, or clamping beam 620, ER-034989 (see page. 283).
Information	ManoSet Rail XXL, suitable for Sodick AQ900L.

EROWA Wire EDM Tooling

Adapters for interfaces

ER-045555	**Clamping frame FrameSet 430/220-335**
ER-039212	**Clamping frame FrameSet 430/300-335**
ER-039211	**Clamping frame FrameSet 490/220-395**
ER-039213	**Clamping frame FrameSet 500/300-405**
ER-039214	**Clamping frame FrameSet 560/300-465**
ER-039215	**Clamping frame FrameSet 650/300-555**
ER-039216	**Clamping frame FrameSet 650/380-555**
ER-039217	**Clamping frame FrameSet 710/380-615**



INOX auto

Version Clamping frame for the multiple palletization of workpieces.

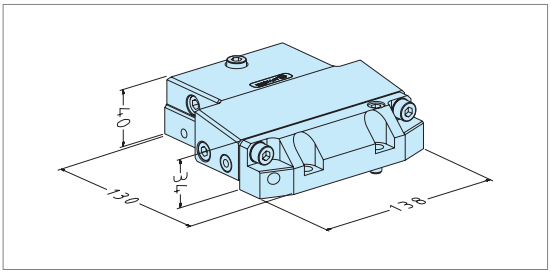
Application To fit on EROWA flat chucks and FrameSet Fix plates (see page 270).

Options See Clamping beams and clamping elements for the EROWA Wire Tooling System, starting from page 270.

	A	B	C	D	E
ER-045555	430	220	335	525	396
ER-039212	430	300	335	525	396
ER-039211	490	220	395	585	316
ER-039213	500	300	405	595	396
ER-039214	560	300	465	655	396
ER-039215	650	300	555	745	396
ER-039216	650	380	555	745	476
ER-039217	710	380	615	805	476

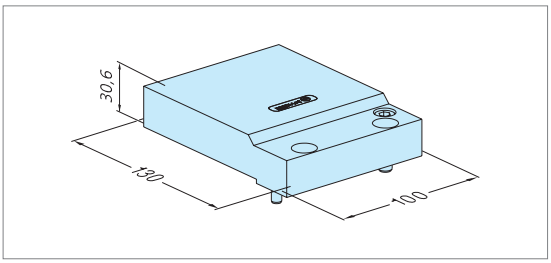
ER-030923 Pendulum holder 3D PalletSet W

Version	Pendulum head for automatic and manual loading. G-Centerning plates for increased durability.
Application	Basis for all the other clamping elements such as UniVise square, frame pallet, vise and beam pallet.
Note	Adjustable in the X-, Y- and Z-axes.



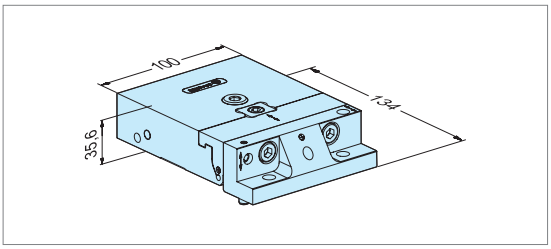
ER-030678 Fix holder PalletSet W

Version	Standard element for automatic and manual loading.
Application	Base for all other clamping elements such as UniVise square, frame plate, vise and beam pallet.
Note	Adjustable in the C-axis.



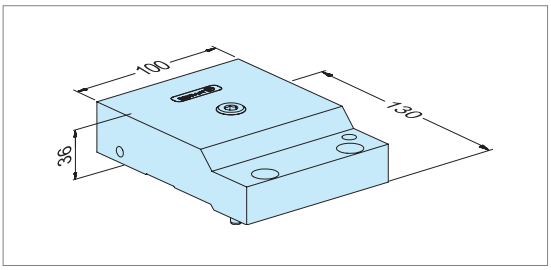
ER-031942 Basic WEDM pendulum holder Basic Tooling

Version	Pendulum head for manual loading.
Application	For use on the Basic WEDM chuck. As a basis for all other clamping elements like UniVise, square, vise and beam pallet.
Note	Adjustable in the X-, Y- and Z-axes.



ER-033955 Basic WEDM fix holder Basic Tooling

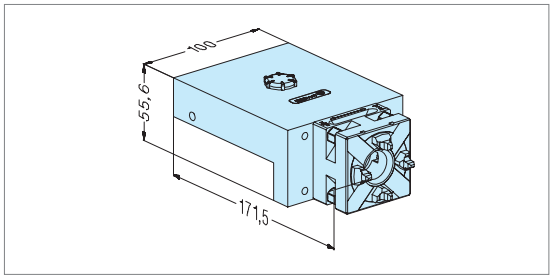
Version	Standard element for manual loading.
Application	For use on the Basic WEDM chuck. As a basis for all other clamping elements like UniVise, square, vise and beam pallet.
Note	Adjustable in the C-axis.



EROWA Wire EDM Tooling

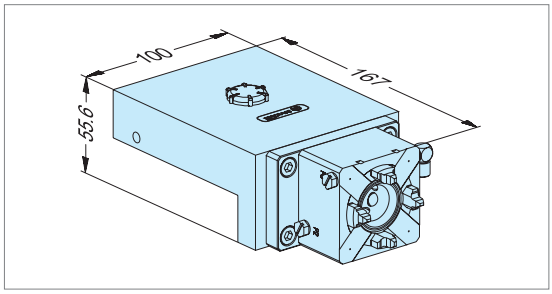
Adapters for interfaces

ER-030645 UnoSet adapter PalletSet W centering plate G



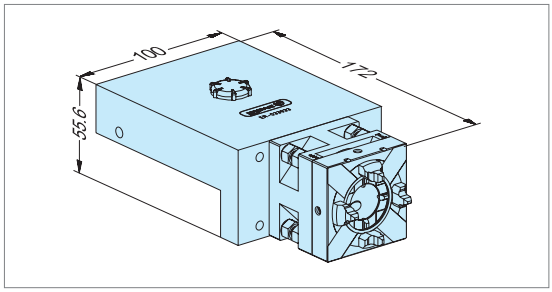
Version	System adapter of PalletSet W to UnoSet.
Application	Clamps workpieces of system size ITS 50 horizontally into the workspace.
Note	Fits all UnoSet and ITS 50 clamping elements.

ER-030643 UnoSet adapter with RSA 50 PalletSet W



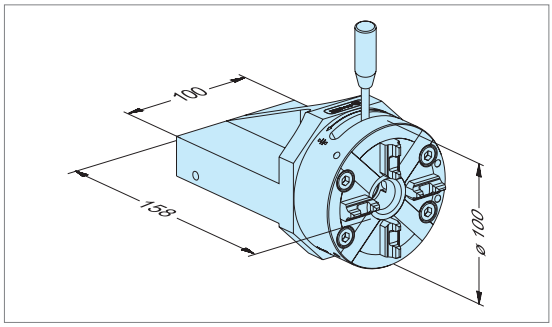
Version	System adapter from Palletset W to UnoSet.
Application	Clamps workpieces of the ITS 50 system size horizontally into the workspace.
Clamping power	2,800 N
Note	Suitable for all UnoSet and ITS 50 clamping elements.

ER-033933 PSW adapter QuickChuck 50 Combi PalletSet W / centering plate G



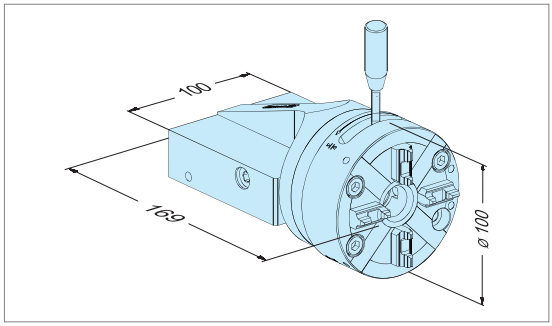
Version	System adapter from Palletset W to UnoSet and/or Compact.
Application	Clamps workpieces of the ITS 50 and Compact system sizes horizontally into the workspace.
Note	Suitable for all UnoSet and ITS 50 clamping elements and Compact clamping elements.

ER-033974 PSW adapter QuickChuck 100 P



Version	System adapter from Palletset W to UnoSet, ITS 50, holder ø 72, and pallets 148, 115.
Application	Clamps workpieces of the ITS 50 and ITS 100 system sizes horizontally into the workspace.
Note	Suitable for all UnoSet clamping elements.

ER-035994 PSW adapter QuickChuck 100 P 360° turnable

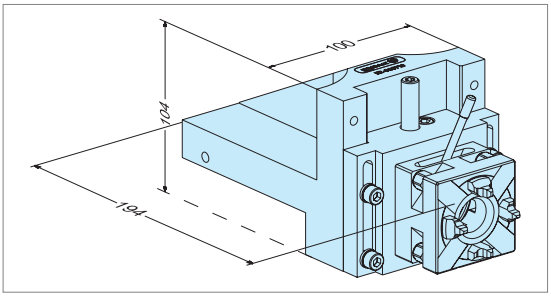


Version	System adapter from Palletset W to UnoSet, ITS 50, holder ø 72, and pallets 148, 115.
Application	Clamps workpieces of system size ITS 50 and ITS 100 horizontally into the working range. Can be rotated around 360°.
Note	Fits all UnoSet clampingelements and ITS 115/148 pallets.

ER-038710 Adapter Z-Vario PalletSet W / UnoSet RSM

INOX auto

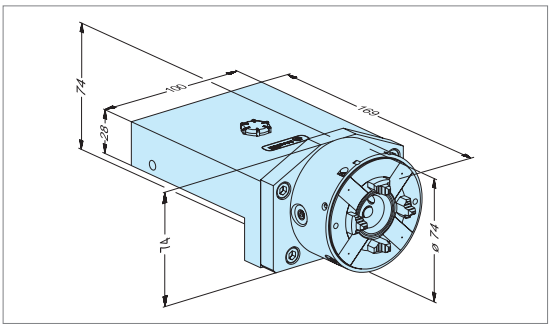
Version	System adapter from Palletset W to UnoSet. Z-axis height adjustable.
Application	To clamp UnoSet and electrodes/workpieces in the ITS 50 system size horizontally into the workspace.
Note	Suitable for use with the whole ITS 50 system and electrode holders.



ER-039795 UnoSet adapter ITS 50 - holder ø 72 PalletSet W

INOX auto

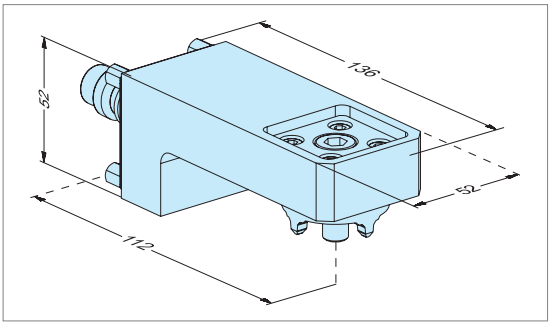
Version	System adapter from Palletset W to ITS 50 holder ø 72
Application	Clamps workpieces of holder ø 72 size horizontally into the workspace.
Operation	Pneumatically with air jet.
Note	Suitable for all holders ø 72 and ITS 50.
Option	ER-032832 Sealing ring ITS Chuck 50.



ER-038711 Extension arm Z-Vario PalletSet W / UnoSet

INOX

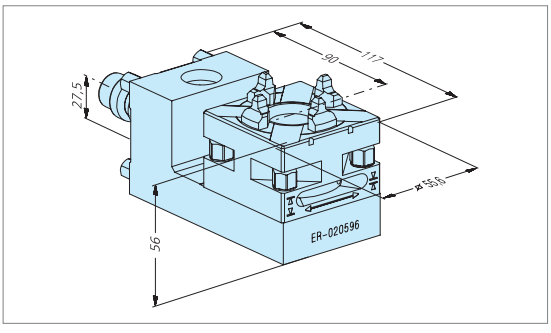
Version	Extension arm with centering system connection to ITS 50. Accommodates workpieces and electrodes.
Application	Accommodation of workpieces and electrodes for machining in a horizontal or vertical position.
Load	Max. 6 kg
Note	Can be used in combination with adapter Z-Vario PSW/ UnoSet. Indexation around 4x90°.



ER-020596 Extension arm UnoSet

INOX

Clamping range	80 mm
Max. load	6 kg
Version	The extension arm UnoSet with QuickChuck 50 is suitable for the accommodation of workpieces and electrodes that have to be machined in a vertical and in a horizontal position.
Note	Indexable around 4x90°.

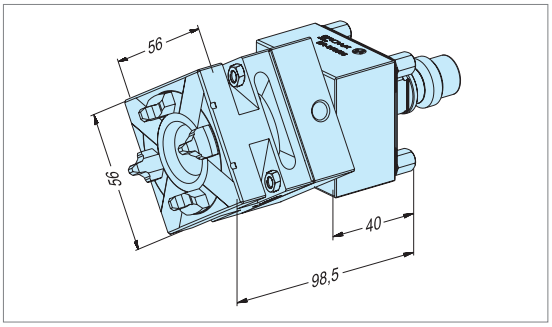


EROWA Wire EDM Tooling

Adapters for interfaces

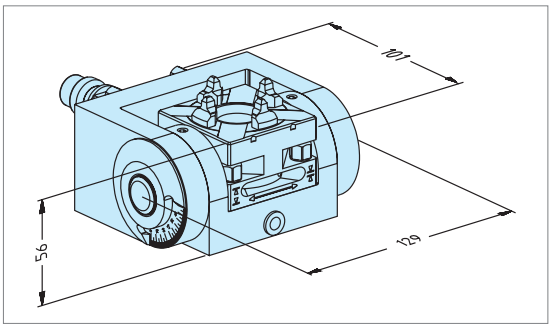
ER-007877 TurnFix 50 UnoSet

Version	Chuck 50, manual, with ITS base plate, continuously able to rotate round 360°.
Application	ITS base for the manual loading of ITS elements carrying workpieces that require angular positions.
Use	On any ITS chuck of system size 50.



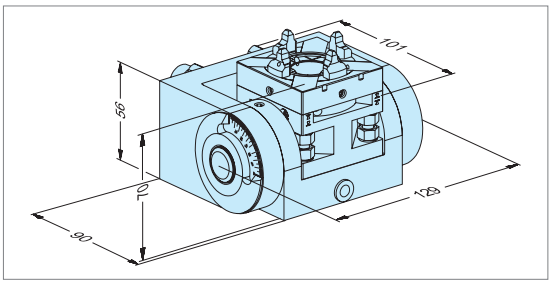
ER-028471 Angle clamping unit UnoSet QuickChuck 50

Version	Chuck 50, angle to be set with the vernier.
Application	WEDM or EDM. To fit lateral sprues to casting tools.
Max. load	6 kg.
Max. work-piece size	100 x 100 x 100 mm.
Connections	Flushing connection in place.



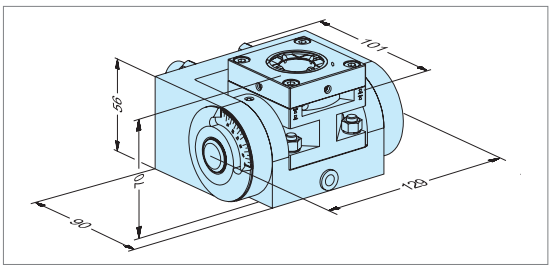
ER-027640 Square clamping unit UnoSet CompactChuck 50 Combi

Version	CompactChuck 50 Combi. Angle to be set with the vernier. Angled clamping unit made of corrosion-resistant steel.
Application	WEDM or EDM.
Connections	Flushing connection in place.



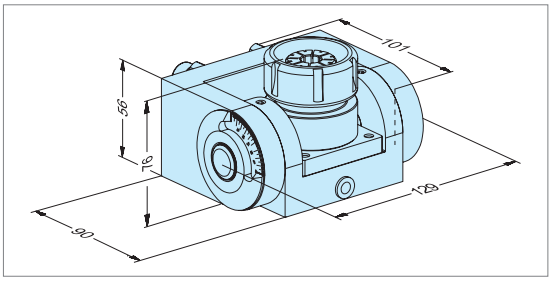
ER-027641 Square clamping unit UnoSet CompactChuck M

Version	CompactChuck manual. Angle to be set with the vernier. Angled clamping unit made of corrosion-resistant steel.
Application	WEDM or EDM.
Connections	Flushing connection in place.



ER-028480 Angle clamping unit UnoSet for collet chuck electrode holder

Version	Angled clamping unit made of corrosion-resistant steel, except collet chuck unit. Angle to be set with the vernier.
Application	WEDM or EDM.
Connections	Flushing connection in place.

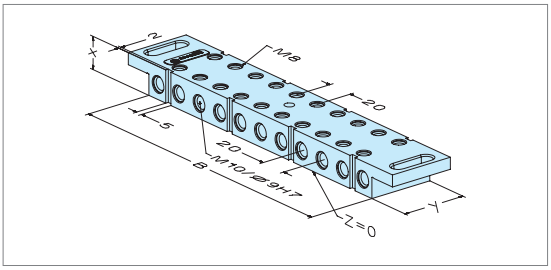


EROWA Wire EDM Tooling

Fixtures for adapters

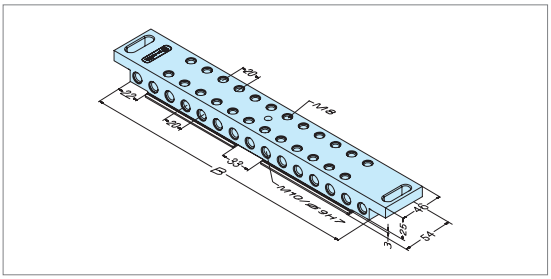
ER-017645	**Clamping beam 220 mm**
ER-017646	**Clamping beam 300mm**
ER-017647	**Clamping beam 380 mm**
ER-017648	**Clamping beam 460 mm**

Application To clamp workpieces with clamping claws on Z-discs.
Version Cross boreholes, ground.



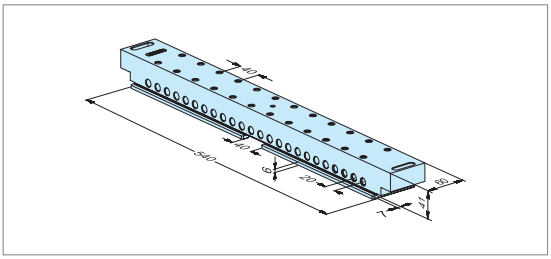
ER-021126	**Double-sided clamping beam 300 mm**
ER-021127	**Double-sided clamping beam 380 mm**
ER-021128	**Double-sided clamping beam 460 mm**

Application To clamp workpieces with clamping claws on Z-support ledges.
Version Cross boreholes, ground.



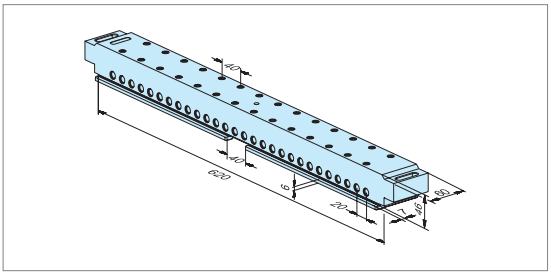
ER-037307	**Double-sided clamping beam 540 mm ManoSet XXL**

Application Clamping of workpieces with clamping claws on Z-support ledges.



ER-034989	**Double-sided Clamping beam 620 mm ManoSet XXL**

Application Clamping of workpieces with clamping claws on Z-support ledges.



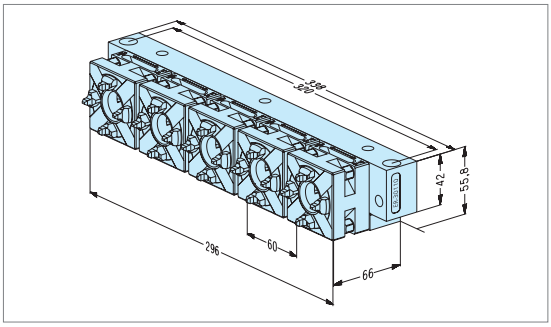
EROWA Wire EDM Tooling

Fixtures for adapters

ER-030110 Beam 5-fold 300 QuickChuck 50 Length 338 mm

INOX

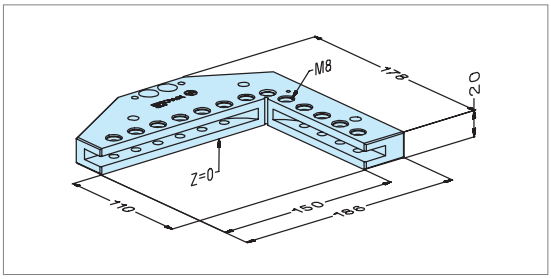
Version	Five chucks 50, manual, in a row.
Application	ITS adapter for the manual loading of five ITS elements.
Use	On all FrameSet clamping frames. Width 300 mm. In combination with the basic adapter set (ER-016652) on the WEDM machine table.



ER-018938 UniVise square PalletSet W

INOX

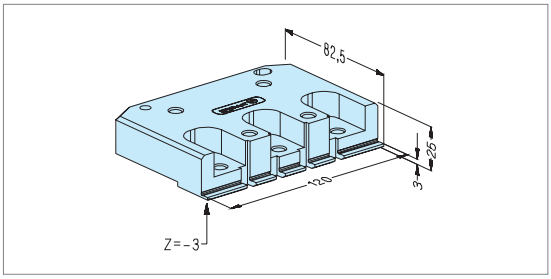
Version	Square with all the clamping accessories.
Application	To be fitted to fix holders or pendulum holders.
Note	Max. load: 10 kg.



ER-018940 Vise PalletSet W

INOX

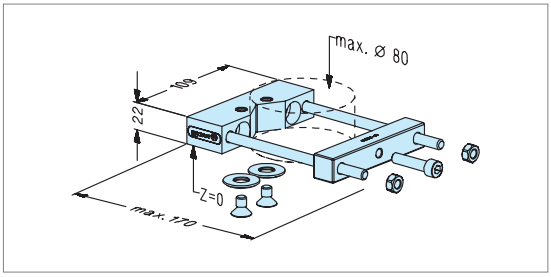
Version	Clamping element with clips for one-sided attachment to workpieces.
Application	To be fitted to fix holders or pendulum holders.
Note	Max. load: 12 kg.



ER-019248 Prism holder 80 PalletSet W

INOX

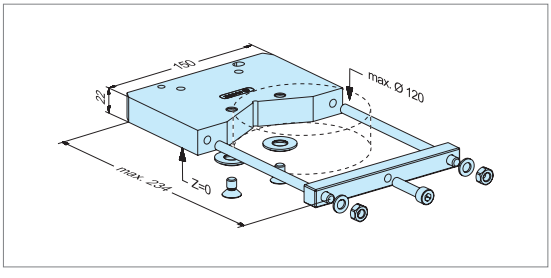
Version	Prism and clamping part with detachable Z-supports.
Application	Clamping of cylindrical workpieces of up to ø 80 mm.
Assembly	To be fitted to the front of beam pallet ER-018937 or clamping beams
Note	Max. load: 6 kg.



ER-031179 Prism holder 120 mm PalletSet W

INOX

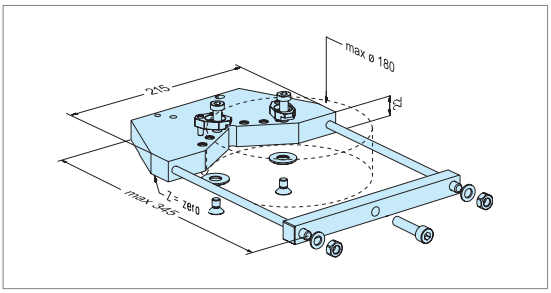
Version	Prism and clamping bars with detachable Z-supports.
Application	To clamp cylindrical workpieces of up to ø 120 mm.
Mounting	Directly to fixholder or pendulum holder.
Note	Max. load: 10 kg.



ER-038891 Prism holder ø 10 - 180 mmPalletSet W

INOX

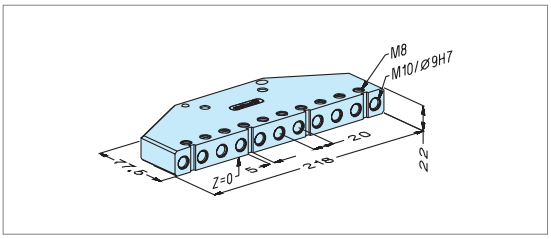
Version	Prism and clamping bars with detachable Z-supports.
Application	To clamp cylindrical workpieces of up to ø 180 mm.
Mounting	Directly to fixholder or pendulum holder.
Note	Max. load: 12 kg.



ER-018937 Beam pallet PalletSet W

INOX

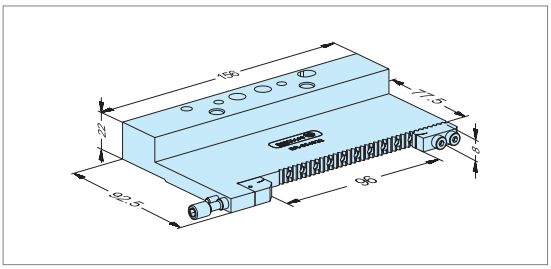
Version	Pallet to accommodate various clamping elements. Includes Z-supports and clips.
Application	To be fitted to fix holders or pendulum holders 3D.
Options	Prism holders and BeamVise clamping elements.



ER-054922 Flat vise 8mm PalletSet W

INOX

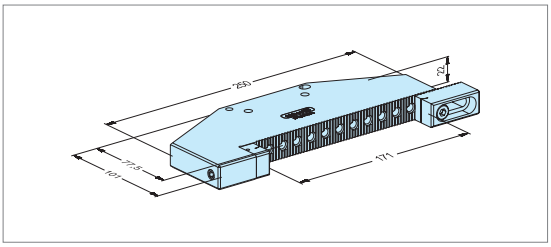
Version	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range	0 - 96 mm.
Max. load	5 kg.
Application	Lateral clamping of workpieces machined outside of up to 96mm. To be fitted to fixholder or pendulum holder.



ER-055774 Flat vise 170 mm PalletSet W

INOX

Version	One movable and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range	0 - 170mm.
Max. load	12 kg.
Application	Lateral clamping of workpieces of 0-170mm machined from the outside. To be fitted to fix or pendulum holders.

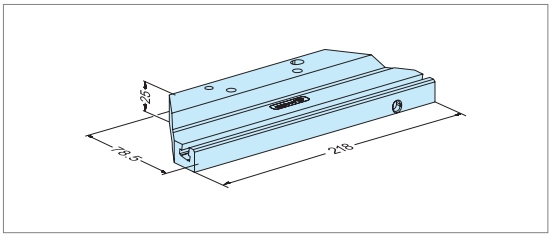


EROWA Wire EDM Tooling

Fixtures for adapters

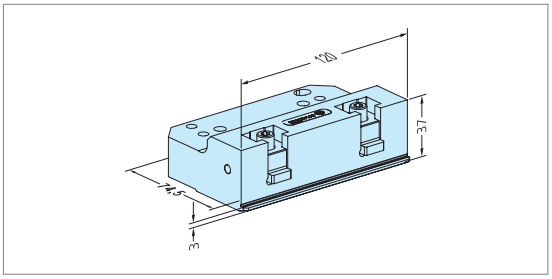
ER-031945 Basic holder PalletSet W

Version	To accommodate various clamping elements.
Application	To fit to fixholder or pendulum holder 3D.
Options	Jaw holder ER-033958 or bracket holder ER-031952.



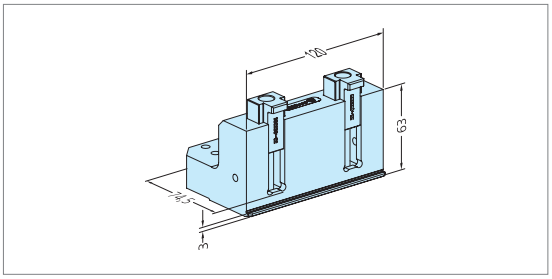
ER-025895 Vise PalletSet W 40 mm

Version	Vise with fixed Z-lip and jaws attached from above. Hardened and ground.
Clamping range	max. 150 x 150 x 40 mm.
Max. load	12 kg.
Application	Lateral clamping of workpieces of 0 -150 mm machined from the outside. To be fitted to fix or pendulum holders.



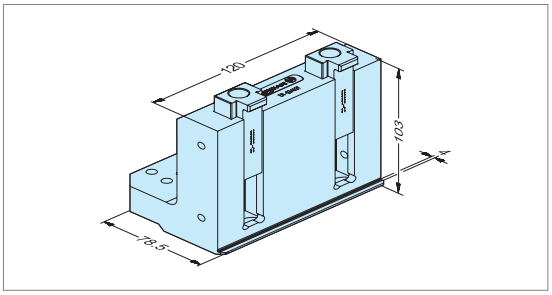
ER-025896 Vise PalletSet W 100 mm

Version	Vise with fixed Z-lip and jaws fitted from above.
Application	To clamp workpieces of up to 100 mm in height. To be fitted to fixholder or pendulum holder.
Max. clamping range	150 x 150 x 100 mm.
Max. load	12 kg.



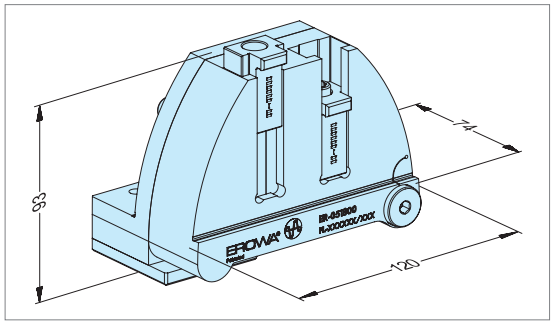
ER-034631 Vise PalletSet W 140 mm

Version	Vise with fixed Z-lip and jaws fitted from above. Hardened and ground.
Application	To clamp workpieces of up to 140mm in height. To be fitted to fixholder or pendulum holder.
Max. load	12 kg.
Max. clamping range	150 x 100 x 140 mm.



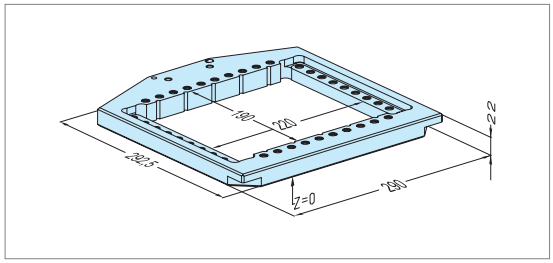
ER-051800 Sine vise PalletSet W

Version	Vise with adjustable angle position and jaws fitted from above. Hardened and ground.
Application	To clamp workpieces at angles adjustable between 0-90°. To fit to fixholder or pendulum holder.
Clamping range	min. 10 mm / max. 75 mm.
Max. load	12 kg.



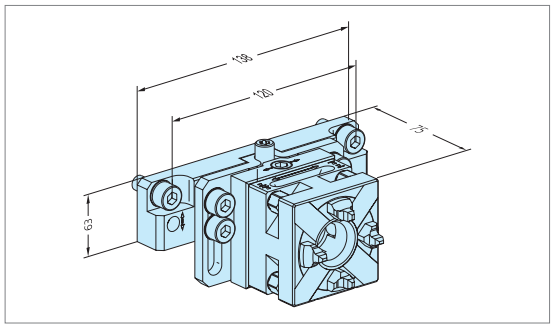
ER-018941 Frame pallet PalletSet W

Version	Clamping frame for multiple palletization of work-pieces
Application	To be fitted to fix holders or pendulum holders.
Option	Clamping beam 220 ER-017645.
Note	To support the clamping frame, use Z-supports.



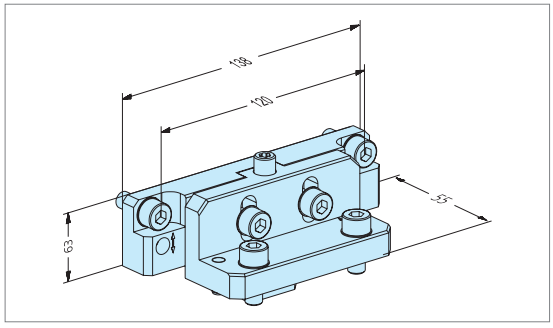
ER-029228 Z-Vario QuickChuck PalletSet W

Version	Fits 3D ER-030923 pendulum holder. Hardened and ground.
Max. load	8 kg.
Clamping range	max. height adjustement 30 mm.
Application	To machine electrodes in PSW which have to be adjusted in height.



ER-029229 Z-Vario clamping elements PalletSet W

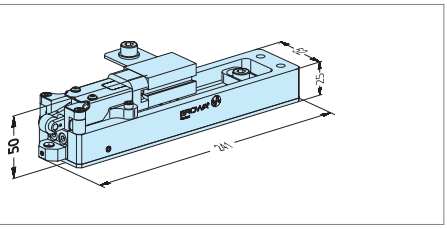
Version	Fits 3D ER-030923 pendulum holder. Hardened and ground.
Max. load	8 kg.
Clamping range	max. height adjustment 30 mm.
Application	PSW clamping elements can also be adjusted in height.



EROWA Wire EDM Tooling

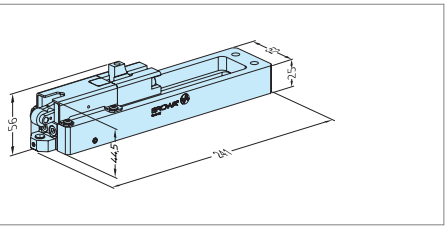
Fixtures for adapters

ER-025115	Z-support PalletSet W universal pneumatic, 1 pair



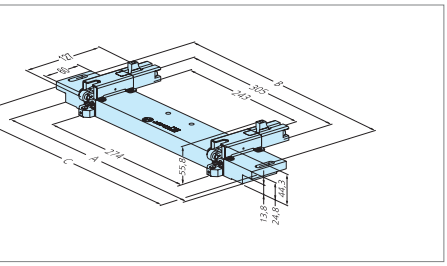
Version	1 pair of supports. Hardened and ground.
Mounting	Directly on the Z=0 base of the WEDM center.
Operation	With manual control unit.
Application	Support and clamping of the frame plate with weights of up to 30kg. Stabilizes the frame plate in case of high flushing pressure.

ER-025116	Z-support PalletSet W universal manual 1 pair



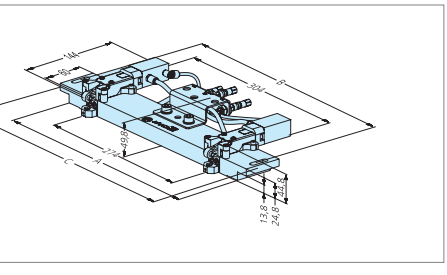
Version	1 pair of supports. Hardened and ground.
Mounting	Directly on the Z=0 base of the WEDM center.
Operation	Manually
Application	Support and clamping of the frame plate with weights of up to 30 kg. Stabilizes the frame plate in case of high flushing pressure.

ER-025100	Z-support beam 300 PalletSet W manual
ER-025101	Z-support beam 380 PalletSet W manual
ER-027205	Z-support beam 460 PalletSet W manual



Version	Support beam for use in EROWA ManoSet.
Operation	Manually
Applicaton	Support and clamping of the frame plate with weights of up to 30 kg in combination with EROWA ManoSet. Stabilizes the frame plate in case of high flushing pressure.

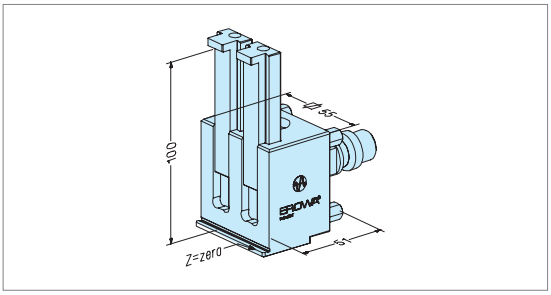
ER-025027	Z-support beam 300 PalletSet W pneumatic
ER-025030	Z-support beam 380 PalletSet W pneumatic
ER-028306	Z-support beam 460 PalletSet W pneumatic



Version	Support beam for use in EROWA ManoSet.
Operation	Pneumatically.
Application	Support and clamping of the frame plate with weights of up to 30kg in combination with EROWA ManoSet. Stabilizes the frame plate in case of high flushing pressure.

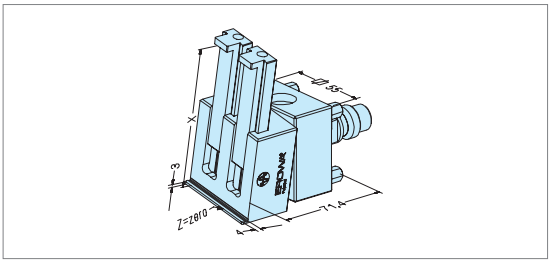
ER-008814 Precision vise 0 - 100 UnoSet

Clamping range	Ranges from 0 to 100 mm.
Max. extension	40 mm at 100 mm workpiece height.
Max. load	5 kg.
Version	Workpiece fixed. Including three sets of clamping jaws.



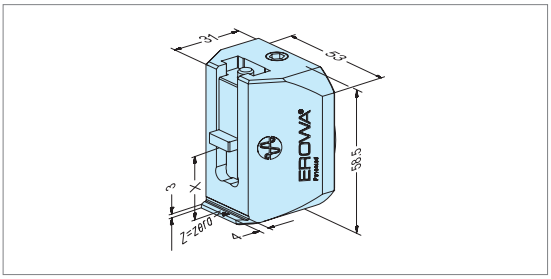
ER-007935 Rotary vise 0 - 100 UnoSet

Clamping range	0–100 mm.
Max. extension	40 mm with 100 mm part height.
Max. load	5 kg.
Version	Continuously able to rotate around 360°. Set with three pairs of clamping jaws.



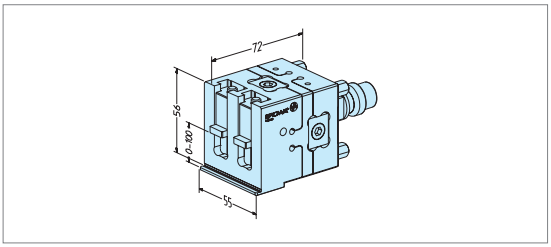
ER-014698 VeeVise UnoSet

Clamping range	0–100 mm.
Max. extension	40 mm with 100 mm part height.
Max. load	5 kg.
Version	Clamping component without ITS connection. To fit to an existing pendulum rotating adapter.



ER-008842 Pendulum vise 0 - 100 UnoSet

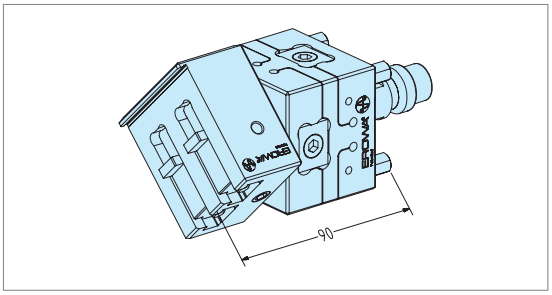
Clamping range	Ranges from 0 to 100 mm.
Max. extension	40 mm at 100 mm workpiece height.
Max. load	5 kg.
Version	Workpiece adjustable in two axes. Including three sets of clamping jaws.



EROWA Wire EDM Tooling

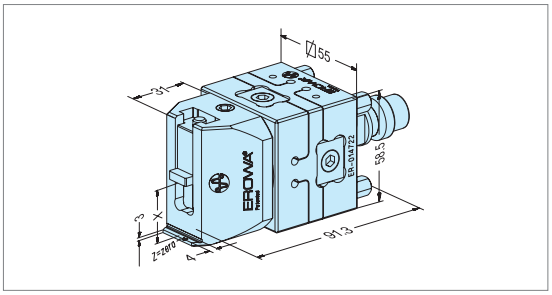
Fixtures for adapters

ER-008856 Rotatable pendulum vise 0 - 100 UnoSet



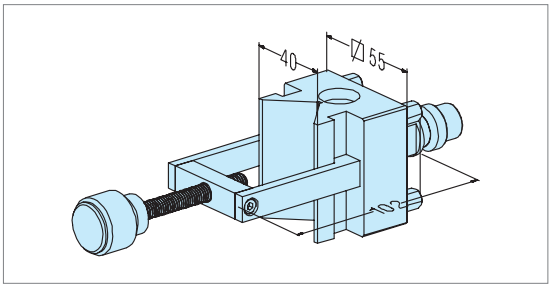
Clamping range	0–100 mm.
Max. extension	40 mm with 100 mm part height.
Max. load	max. 5 kg.
Version	For adjustable workpiece positioning in three axes. Continuously able to rotate around 360°. Set with three pairs of clamping jaws.

ER-014722 VeeVise TP UnoSet



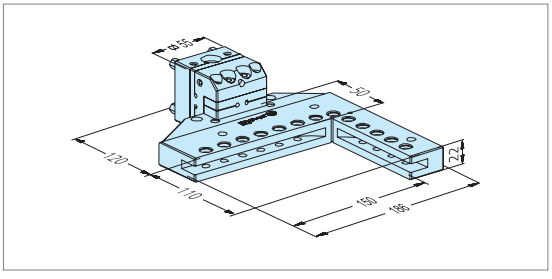
Clamping range	0–100 mm.
Max. extension	40 mm with 100 mm part height.
Max. load	max. 5 kg.
Version	For adjustable workpiece positioning in three axes. Continuously able to rotate around 360°. Set with three clamping jaws.

ER-016691 V-block holder UnoSet



Clamping range	Parts up to ø 40 x H 150 mm.
Max. load	1.5 kg.
Application	To clamp parts in prismatic slot. Parallel and angular precision 0.01 mm.

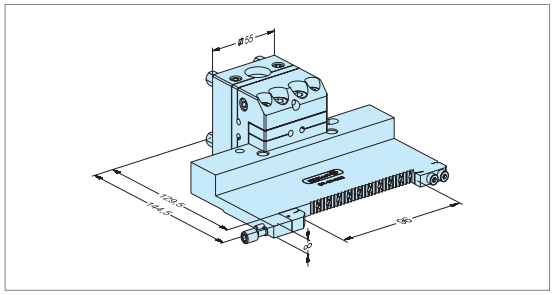
ER-015670 UniVise P UnoSet



Clamping range	Round parts: ø 5-85mm; flat parts: 140 x 100mm.
Max. load	5 kg.
Version	Complete set with all clamping elements, adjustable in three axes.

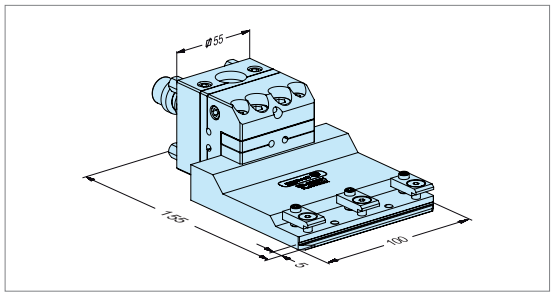
ER-055535 Flat vise 8 mm UnoSet

Version	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range	0 - 96 mm.
Max. load	5 kg.
Application	Lateral clamping of workpieces machined outside of 0 - 96 mm.



ER-052091 Support straight UnoSet with mini clamp

Version	Vertical clamping of workpieces.
Clamping range	0 - 40 mm.
Max. load	5 kg.
Application	Vertical clamping of workpieces.



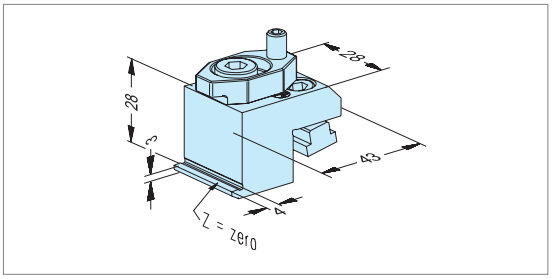
EROWA Wire EDM Tooling

Clamping elements for fixtures

ER-031952 Bracket holder PalletSet W (1 pair)

INOX

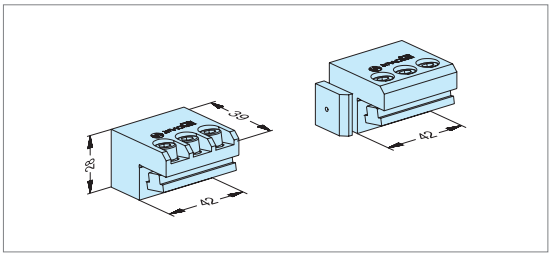
Version	Two movable vertical jaws. Hardened, ground and corrosion-resistant.
Application	Variable vise to be fitted to basic holder PSW.
Mounting	Directly to basic holder ER-031945, using the fittings supplied.



ER-033958 Jaw holder PalletSet W

INOX

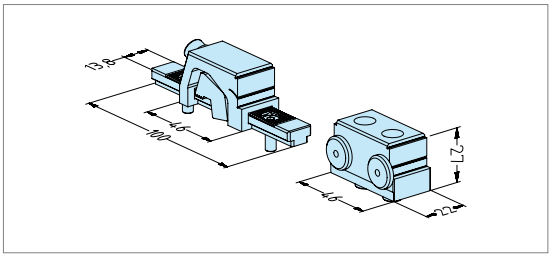
Version	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Application	Variable vise to be fitted to basic holder PSW.
Mounting	Directly to basic holder ER-031945, using the fittings supplied.



ER-062788 BeamVise Single

INOX

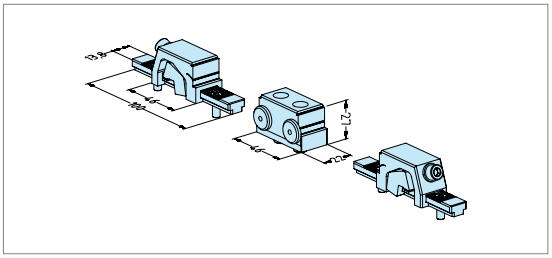
Version	One movable and one fixed stop jaw. Hardened, ground, corrosion-resistant.
Application	Variable vise laterally on EROWA clamping beams.
Assembly	With the enclosed assembly elements to the desired clamping beam Pallet Set W ER-018937.



ER-062789 BeamVise Twin

INOX

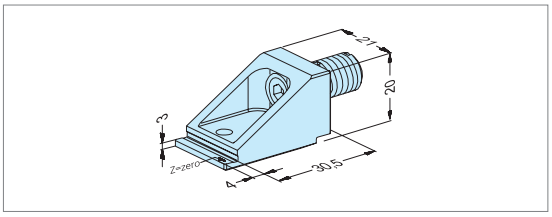
Version	Two movable stop jaws and one fixed stop jaw. Hardened, ground, corrosion-resistant.
Application	Variable vise laterally on EROWA clamping beams.
Assembly	With the enclosed assembly elements to the desired clamping beam PalletSet W ER-018937.



ER-008231 Mini distance support

INOX

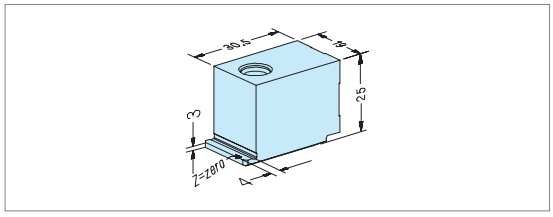
Application	As side support for workpieces, or for clamping small, flat single parts.
Presetting	The support surface height corresponds to Z = 0 and is not adjustable.
Use	On all clamping and gripping beam ER-018937.



ER-008875 Fixed distance support

INOX

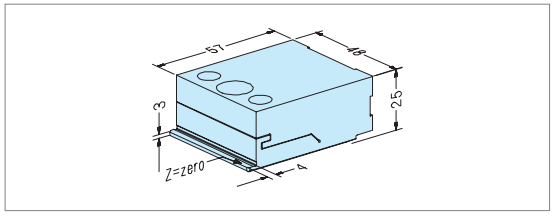
Application	As side support for workpieces, or for clamping small single parts.
Presetting	The support surface height corresponds to Z = 0 and is not adjustable.
Use	On all clamping beams up to 460 mm length.



ER-008873 Adjustable distance support

INOX

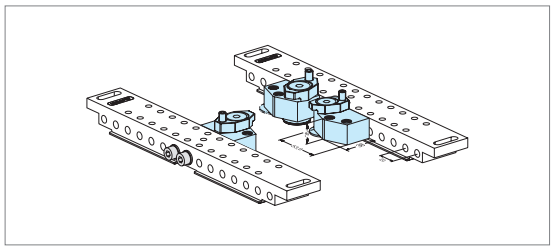
Application	As side support for workpieces, or for clamping small single parts.
Presetting	The support surface height corresponds to Z = 0 and is adjustable +/- 0.15 mm.
Use	On all clamping and gripping beams.



ER-007990 DiaFix 3 pieces

INOX

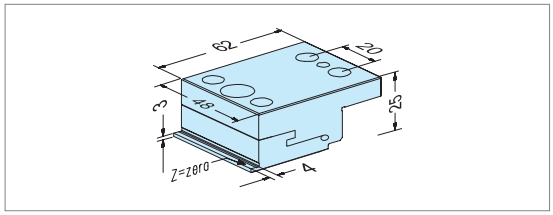
Application	For supporting round parts with diameters starting at 50 mm, or as a side support for rectangular work-pieces.
Presetting	The support surface height corresponds to Z = 0 and is not adjustable.
Use	On all clamping beams.



ER-008221 Z beam

INOX

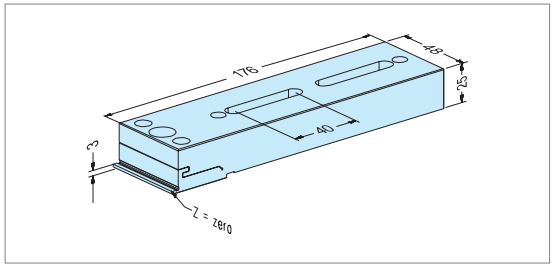
Application	As side support for workpieces, or for clamping small single parts.
Presetting	The support surface height corresponds to Z = 0 and is adjustable +/- 0.15 mm.
Use	On all plates and beams with Z = + 14 mm.



ER-008220 Z universal support

INOX

Application	As side support for workpieces, or for clamping small single parts.
Presetting	The support surface height corresponds to Z = 0 and is adjustable +/- 0.15 mm.
Use	On all carrier plates and bases with Z = 0.



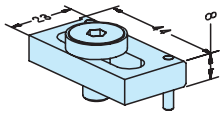
EROWA Wire EDM Tooling

Clamping elements for fixtures

ER-016657 BeamStop set

INOX

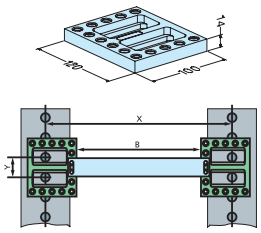
Version	Set of two stops for EROWA beams. Hardened, ground, corrosion-resistant.
Application	On ManoSet base rails, on Basic Adapter and in RoboSet Clamping frames.
Assembly	With the enclosed bolts.



ER-016652 Basic adapter set 120 x 100 x 14 mm

INOX

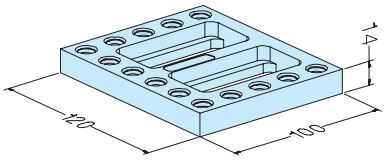
Version	A pair of ground, hardened, corrosion-resistant steel plates with variable assembly hole grids, including BeamStop.
Application	Base on WEDM machines unequipped with tooling system for the use of EROWA ManoSet clamping beams.
Assembly	With the enclosed assembly elements directly onto the existing Z-zero machine structure.



ER-017198 Basic adapter 120x100x14 mm 120 x 100 x 14 mm

INOX

Version	A ground, hardened, corrosion-resistant plate with variable assembly hole grids.
Application	Base on WEDM machines with no tooling system. With chucks ER-007851/ER-007852.
Assembly	With the enclosed bolts directly onto the existing Z-zero base.



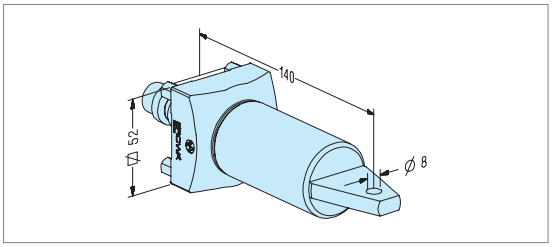
EROWA Wire EDM Tooling

Accessories

ER-012727 Reference pin UnoSet

INOX

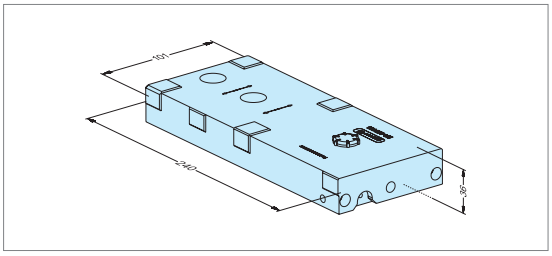
Version Hardened, ground, borehole ø 8 mm.
Application To determine reference measurements on horizontal chucks.



ER-055158 Alignment pallet for PalletSet W

INOX

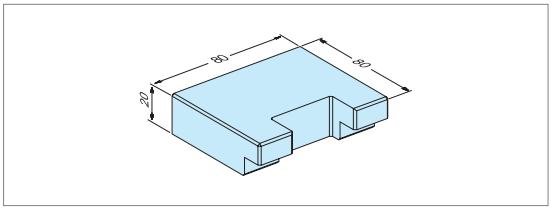
Version Hardened, ground gauge with lateral reference surfaces and two defined reference boreholes.
Application To determine the reference point and to align chucks.



ER-022669 Bracket for flat chuck FSF without fixing borehole, 2 pieces

INOX

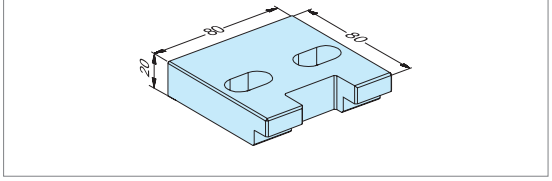
Version Steel, unhardened. Set of 2.
Application To fit flat chucks to WEDM centers.



ER-022670 Bracket for flat chuck FSF Agie, 2 pieces

INOX

Version Steel, with attachment boreholes. Set of 2.
Application To fit flat chucks to Agie WEDM centers.

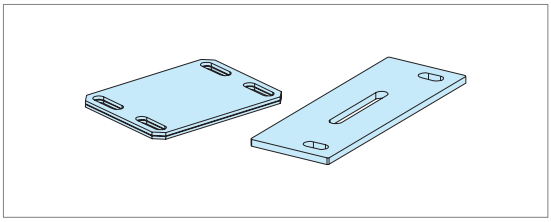


EROWA Wire EDM Tooling

Accessories

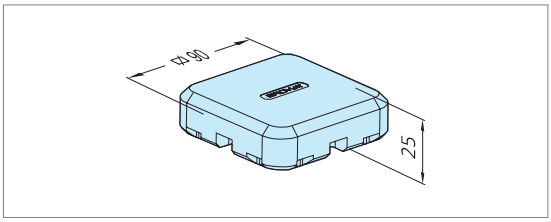
ER-028913 Insulation set PalletSet W

Application: To fit underneath the flat chucks and Z-supports to insulate the tooling system.



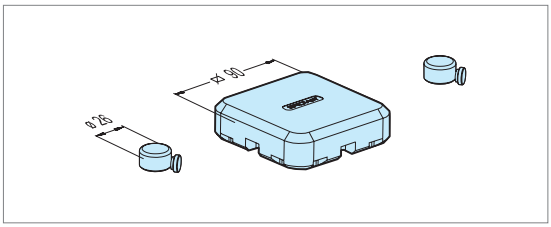
ER-026768 Cover for flat chuck FSF

Version: Cover for flat chucks.
Application: Protects flat chucks that are not in use against contamination and damage.



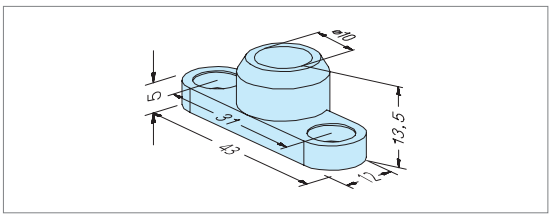
ER-027695 Cover for flat clamping chuck PalletSet W

Version: Set consisting of 2 covers for flat chucks and 4 covers for Z-supports.
Application: Protects flat chucks and Z-supports that are not use against contamination and damage.



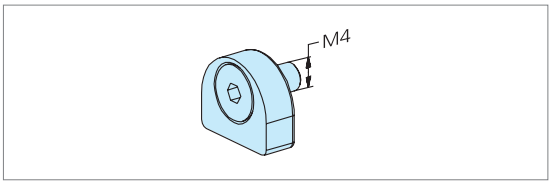
ER-035156 EWIS™ rapid chip with holder long

Version: Holder with built-in datacarrier. EWIS™ Chip: read only.
Application: With EROWA Collet Chuck holders and Square 15/25 holders.
Mounting: With supplied M4 bolts.



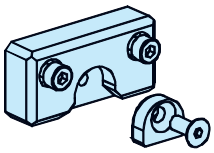
ER-035294 EWIS™ Rapid chip with chip holder RCS with chip ø 3 x 13.5 mm

Version: Holder with built-in data carrier. EWIS chip: read only.
Application: To build into RCS coupling, PalletSet W holder and Basic WEDM holder.



ER-041179 Chip holder FrameSet EWIS™ Rapid mit Chip ø 3.15 x 13.3 mm

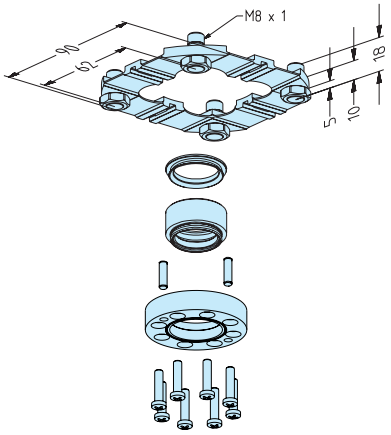
Version Holder with built-in data carrier. EWIS chip: read only.
Application To build into FrameSet clamping frames.



ER-030671 Centering plate, G100 M8 x 1 PalletSet W, set of 5 pieces

INOX

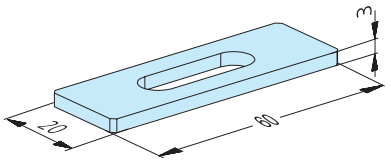
Version Set of 5, including support feet.
Application To be fitted directly to workpiece and electrodes to be used on flat chucks.



ER-008910 Set of spacer plate 60 x 20 x 3 mm 8 pieces

INOX

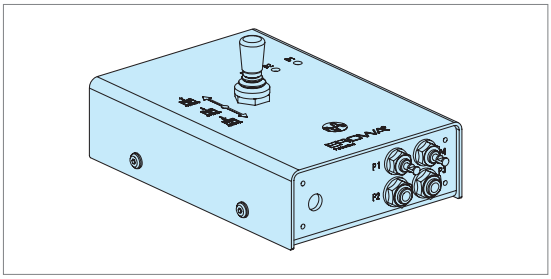
Version Set of 8 plates. Ground, hardened.
Application To fit underneath clamping beams to raise the Z-support by 3 mm. This prevents collisions in the working range of the lower flushing nozzles.



EROWA Wire EDM Tooling

Accessories

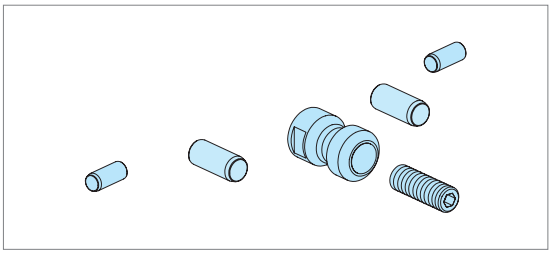
ER-008988 Manual control unit



Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC: opening/reclamping/cleaning.

Application Operation of chucks on machines.

ER-018936 GripperLink RCS PalletSet W



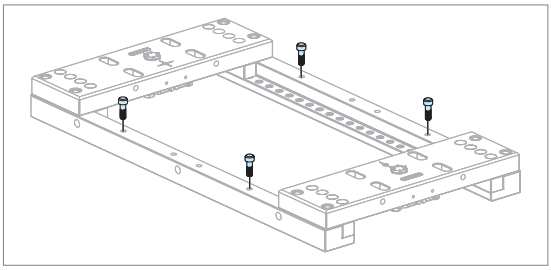
Version Gripper coupling for RCS gripper, consisting of 4 positioning pins and a chucking spigot.

Application On all EROWA handling devices equipped with the RCS coupling system.

Assembly Glue in pins according to instructions, fit chucking spigot with bolt.

Note Recess for EWIS chip (not included) in the chucking spigot.

ER-034533 FrameSet gripper bolts 4 pieces

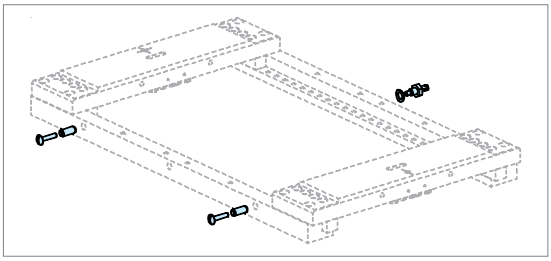


Version Set of 4 gripper bolts.

Application For FrameSet clamping frames with EROWA handling facilities.

Please note Only in applications with FrameSet gripper automation.

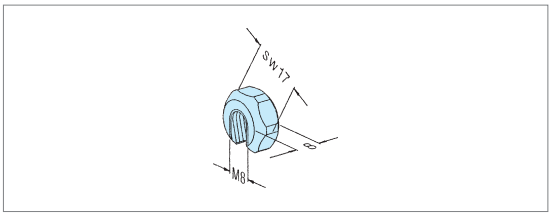
ER-022465 Coupling kit FrameSet manual



Version Set including 2 gripper pins 2 M6x30 bolts 1 cord holder 1 spring washer.

Application To take up FrameSet frames with the EROWA Lift.

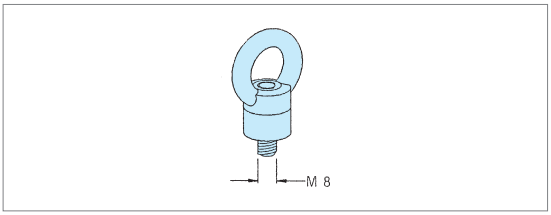
ER-008846 Slotted nut M8 10 pieces



Quantity 10 pieces.

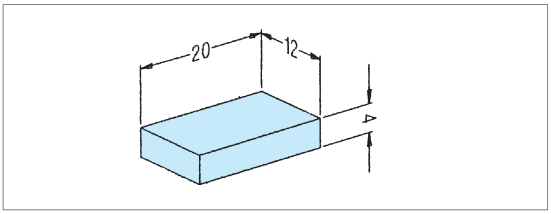
Application On long setscrews, to avoid time-consuming nut tightening.

ER-008848 Eye bolt M8
1 pair



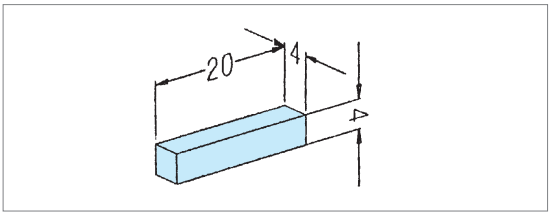
Quantity 2.
Application To raise loaded clamping frames with a crane or lifting device.

ER-007799 Spacer plate large, 20 x 12 x 4 mm
50 pieces



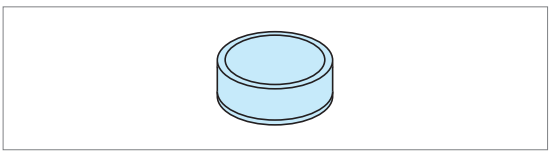
Quantity 50.
Application As supports for chucking claws.

ER-007781 Spacer plate small, 20 x 4 x 4 mm
50 pieces



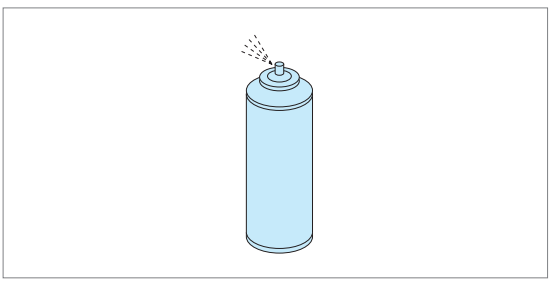
Quantity 50.
Application As supports for chucking claws.

ER-001674 Erogrease (corrosion protection)
1 kg OKS 403



Version 1kg tin.
Application For the durable lubrication of guides, joints and threads submerged in water.

ER-010734 Branotect maintenance spray
0.4 liter

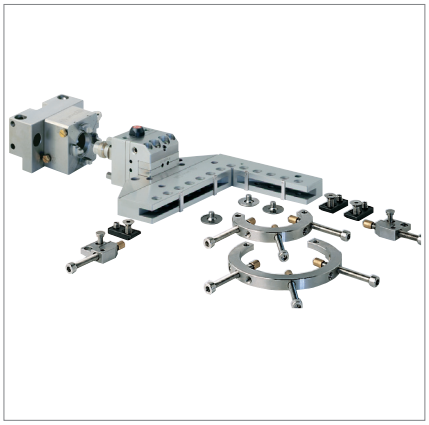


Version 0.4 litre aerosol.
Application For the maintenance and conservation of all the clamping elements used for WEDM purposes.

EROWA Wire EDM Tooling

Kit

ER-009696	**UnoSet Basic Kit manual**
ER-007962	**UnoSet Basic Kit pneumatic**
Version	Basic tooling system equipment for WEDM centers.
Application	Suitable for the palletization of small and medium sized workpieces.
Mounting	Depending on the machine base, we recommend the multi-adapter plate ER-017198.
Kit contains	1 chuck 1 UniVise universal vise
Please note	For machine-specific information, please contact your EROWA dealer.



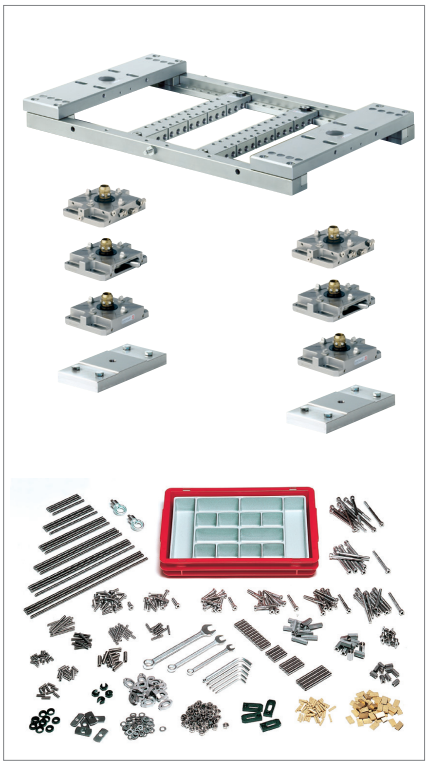
ER-017198	**Multi-adapter plate**
Application	To fit the UnoSet chuck to the machine base
Mounting	Through the adjustable borehole grids with the bolts supplied.



ER-021502	**Starter Kit PalletSet W, manual**
ER-021503	**Starter Kit PalletSet W pneumatic**
Version	Basic tooling system equipment for WEDM centers.
Application	Suitable for the palletization of medium-sized workpieces.
Mounting	Directly to the machine base with the fittings supplied.
Kit contains	1 chuck 1 fixholder 1 vise 1 manual control unit (pneumatic)
Please note	For machine-specific information, please contact your EROWA dealer.



	Starter Kit FrameSet, fix
	Starter Kit FrameSet, basic
	Starter Kit Frameset, manual
	Starter Kit Frameset, pneumatic
Version	Basic frame tooling system equipment for WEDM centers. Manually or pneumatically controlled chucks according to your choice. With the FrameSet fix version, the clamping frames are firmly bolted to the machine base.
Application	Suitable for the palletization of small and medium-sized workpieces.
Mounting	Directly to the machine base with the fittings supplied.
Kit contains	2 FrameSet fix plates or corresponding chucks 1 clamping frame of the machine-specific size 2 fitting clamping beams 1 set clamping equipment 1 set frame supports Fittings and pneumatic materials where necessary
Please note	For machine-specific information, please contact your EROWA dealer.



	ManoSet Kit XXL
Version	Basic frame tooling system equipment for WEDM centers. Fixed rails serve as the basis for the clamping beams.
Application	On large WEDM centers.
Mounting	Directly to the machine base with the fittings supplied.
Kit contains	1 set machine-specific base rails 2 fitting clamping beams 1 set clamping equipment
Please note	For machine-specific information, please contact your EROWA dealer.



EROWA Wire EDM Tooling

Set of clamping elements

EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-019989 Set of clamping elements, PalletSet W

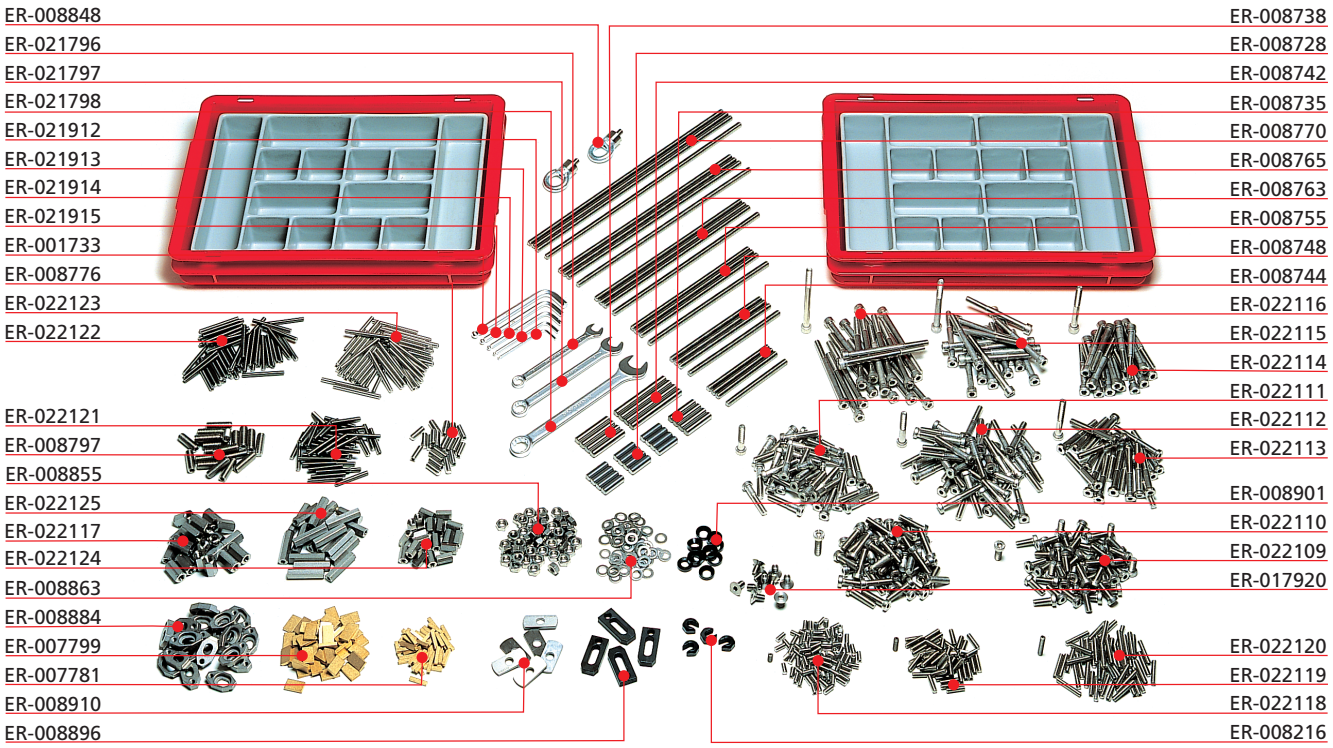
These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-002611	Hex key SW 5	1	1
ER-007729	Z-washer 3 mm	10	1
ER-007768	Hex key SW 3	1	1
ER-007781	Spacer, small	50	50
ER-007799	Spacer, large	50	50
ER-008884	Clip, universal	10	4
ER-017920	Countersunk bolt M8 x 14	10	1
ER-022109	Socket head bolt M8 x 20	10	50
ER-022110	Socket head bolt M8 x 30	10	50
ER-022111	Socket head bolt M8 x 40	10	50
ER-022113	Socket head bolt M8 x 60	10	50
ER-022118	Threaded pin M6 x 12	10	50
ER-022119	Threaded pin M6 x 20	10	50
ER-022120	Threaded pin M6 x 30	10	50
ER-022121	Threaded pin M6 x 40	10	50
ER-022122	Threaded pin M6 x 50	10	50

EROWA Wire EDM Tooling

Set of clamping elements for Wire EDM Tooling Standard

EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008868 Set of clamping elements, standard

These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001733	Hex key SW 8	1	1
ER-007781	Spacer plate, small	50	50
ER-007799	Spacer plate, large	50	50
ER-008216	Slotted nut M8	4	4
ER-008728	Straight pin ø9 L = 30	12	4
ER-008735	Straight pin ø9 L = 40	4	4
ER-008738	Straight pin ø9 L = 50	4	4
ER-008742	Straight pin ø9 L = 80	4	4
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded pin, hex, M8 x 20	20	50

ER-008868 Set of clamping elements, standard

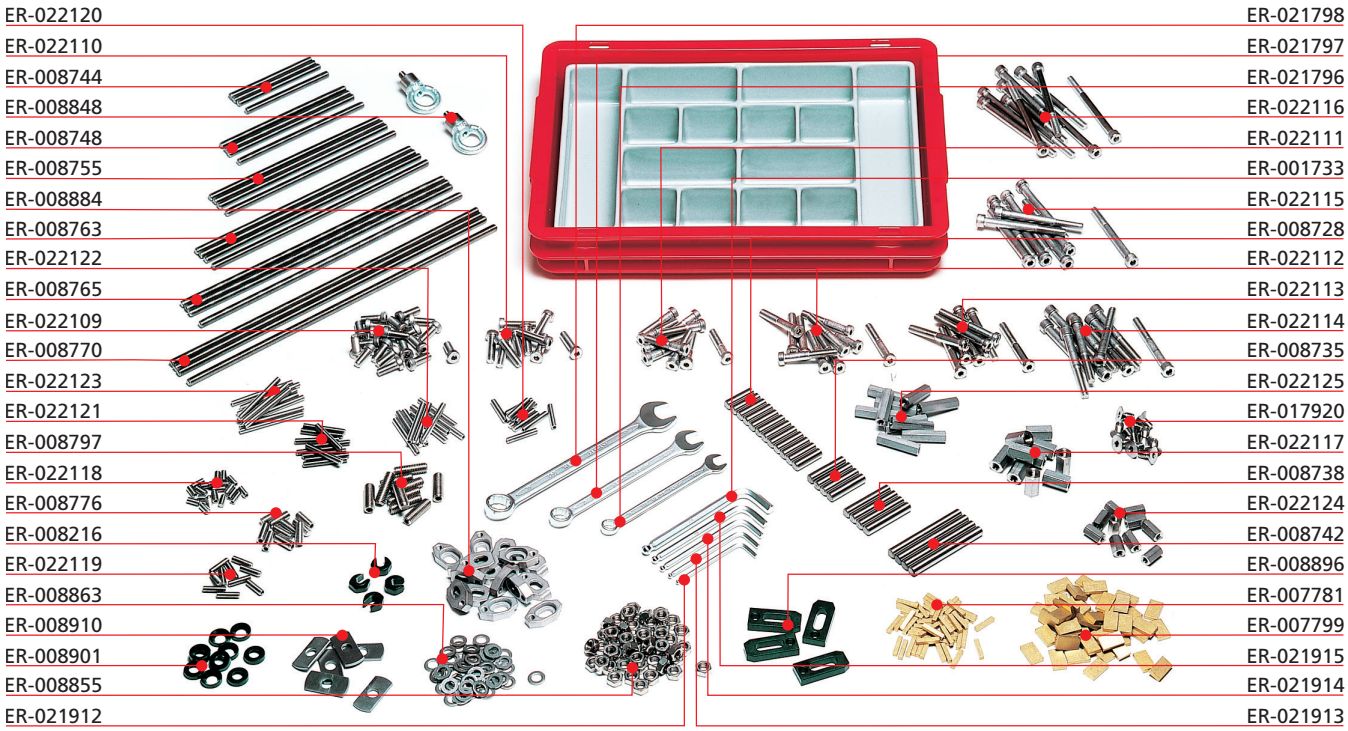
These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-008797	Threaded pin, hex, M10 x 30	20	50
ER-008848	Eye bolt	2	2
ER-008855	Hex nut, M8 x 0.8	50	50
ER-008863	Washer	50	50
ER-008884	Bracket, universal	20	4
ER-008896	Bracket	4	4
ER-008901	Sliding disk	10	20
ER-008910	Spacer plate	8	8
ER-017920	Countersunk head bolt M8 x 14	10	1
ER-021796	Ring spanner, SW 10	1	1
ER-021797	Ring spanner, SW 13	1	1
ER-021798	Ring spanner, SW 17	1	1
ER-021912	Hex key SW 3	1	1
ER-021913	Hex key SW 4	1	1
ER-021914	Hex key SW 5	1	1
ER-021915	Hex key SW 6	1	1
ER-022109	Socket head bolt, hex, M8 x 20	50	50
ER-022110	Socket head bolt, hex, M8 x 30	50	50
ER-022111	Socket head bolt, hex, M8 x 40	40	50
ER-022112	Socket head bolt, hex, M8 x 50	40	50
ER-022113	Socket head bolt, hex, M8 x 60	20	50
ER-022114	Socket head bolt, hex, M8 x 70	20	20
ER-022115	Socket head bolt, hex, M8 x 80	20	20
ER-022116	Socket head bolt, hex, M8 x 100	20	20
ER-022117	Hex extension nut M8	20	20
ER-022118	Threaded pin, hex, M6 x 12	100	50
ER-022119	Threaded pin, hex, M6 x 20	50	50
ER-022120	Threaded pin, hex, M6 x 30	50	50
ER-022121	Threaded pin, hex, M6 x 40	50	50
ER-022122	Threaded pin, hex, M6 x 50	50	50
ER-022123	Threaded pin, hex, M6 x 60	50	50
ER-022124	Extension nut, hex / M6	20	20
ER-022125	Spacer, hex / M6 / L = 40	20	20

EROWA Wire EDM Tooling

set of clamping elements for Wire EDM Tooling Economy

EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008215 Set of clamping elements Economy

These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001733	Hex key SW 8	1	1
ER-007781	Spacer plate, small	50	50
ER-007799	Spacer plate, large	50	50
ER-008216	Slotted nut M8	4	4
ER-008728	Straight pin, ø9 L = 30	12	4
ER-008735	Straight pin, ø9 L = 40	4	4
ER-008738	Straight pin, ø9 L = 50	4	4
ER-008742	Straight pin, ø9 L = 80	4	4
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded pin, hex, M8 x 20	10	50

ER-008215 Set of clamping elements Economy

These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-008797	Threaded pin, hex, M10 x 30	10	50
ER-008848	Eye bolt	2	2
ER-008855	Hex nut, M8 x 0.8	50	50
ER-008863	Washer	50	50
ER-008884	Bracket universal	15	4
ER-008896	Bracket	4	4
ER-008901	Sliding disk	10	20
ER-008910	Spacer plate	8	8
ER-017920	Countersunk head bolt M8 x 14	10	1
ER-021796	Ring spanner, SW 10	1	1
ER-021797	Ring spanner, SW 13	1	1
ER-021798	Ring spanner, SW 17	1	1
ER-021912	Hex key SW 3	1	1
ER-021913	Hex key SW 4	1	1
ER-021914	Hex key SW 5	1	1
ER-021915	Hex key SW 6	1	1
ER-022109	Socket head bolt, hex, M8 x 20	20	50
ER-022110	Socket head bolt, hex, M8 x 30	10	50
ER-022111	Socket head bolt, hex, M8 x 40	10	50
ER-022112	Socket head bolt, hex, M8 x 50	10	50
ER-022113	Socket head bolt, hex, M8 x 60	10	50
ER-022114	Socket head bolt, hex, M8 x 70	10	20
ER-022115	Socket head bolt, hex, M8 x 80	10	20
ER-022116	Socket head bolt, hex, M8 x 100	10	20
ER-022117	Hex extension nut, M8	10	20
ER-022118	Threaded pin, hex, M6 x 12	20	50
ER-022119	Threaded pin, hex, M6 x 20	10	50
ER-022120	Threaded pin, hex, M6 x 30	10	50
ER-022121	Threaded pin, hex, M6 x 40	10	50
ER-022122	Threaded pin, hex, M6 x 50	10	50
ER-022123	Threaded pin, hex, M6 x 60	10	50
ER-022124	Extension nut, hex / M6	10	20
ER-022125	Spacer, hex/M6/L = 40	10	20

EROWA Wire EDM Tooling

Set of clamping elements for Wire EDM Tooling XL

EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008301 Set of clamping elements, XL

These materials have been packed in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001417	Wrench SW13	1	1
ER-002613	Hex key SW 5	1	1
ER-007781	Spacer plate, small, 4 x 4 x 20 mm	50	50
ER-007799	Spacer plate, large, 4 x 12 x 20 mm	50	50
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded rod M8 x 20	10	50
ER-008786	Threaded rod M8 x 30	10	50
ER-008790	Threaded rod M8 x 40	10	50
ER-008794	Threaded rod M8 x 50	10	50
ER-008812	Countersunk head bolt M8 x 40	20	40
ER-008855	Hex nut M8 x 0.8D	20	50
ER-008861	Hex nut M8 x 3D	4	10
ER-008863	Washer ø 15 x 8,4 x 1.6	20	50
ER-008896	Clamp 45 mm	8	4

ER-008301 Set of clamping elements XL

These materials have been packed in one solid plastic box.

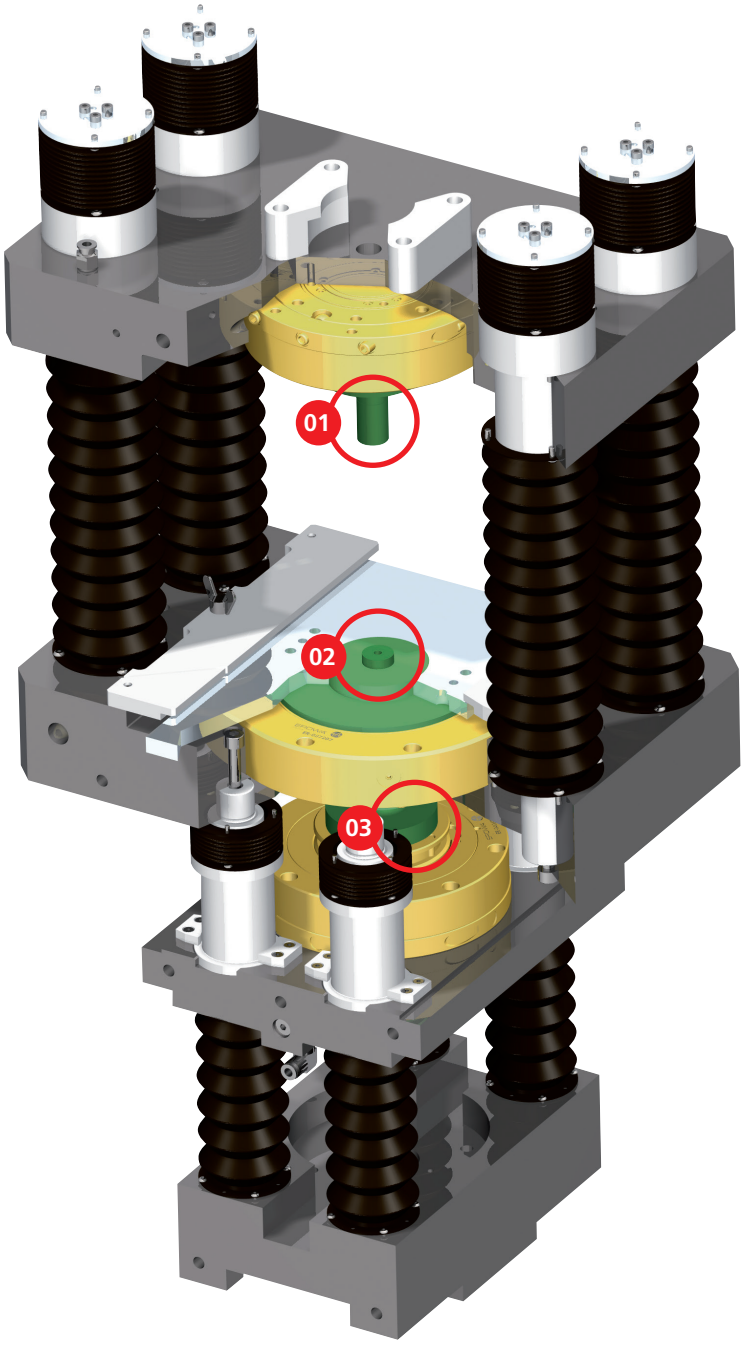
Order number	Description	Units per set	Units supplied by order number
ER-008901	Sliding disk	20	20
ER-010115	Clamps, aluminum, bronzed	4	1
ER-010120	Column, 100 mm	4	1
ER-010123	Column, 60 mm	4	1
ER-010126	Adjustment supports	4	1

EROWA PM Tooling

Pressing powder systematically

Pressed-powder parts are becoming ever more refined, and the diversity of product shapes is on the increase. Batch sizes are becoming smaller, which means that powder presses must be reset frequently.

EROWA has developed a solution for the minimization of resetting times: Single- or multi-level powder presses are equipped with the suitable PM tooling system. In this way, pressing tools can be exchanged in next to no time and with the highest degree of precision.



01 | **Upper punch**
on EROWA PM Tooling pallet:
Positioning accuracy < 0.002 mm.

02 | **Die-plate**
on EROWA PM Tooling pallet:
Positioning accuracy < 0.002 mm.

03 | **Lower punch**
on the EROWA PM Tooling pallet:
Positioning accuracy < 0.002 mm..

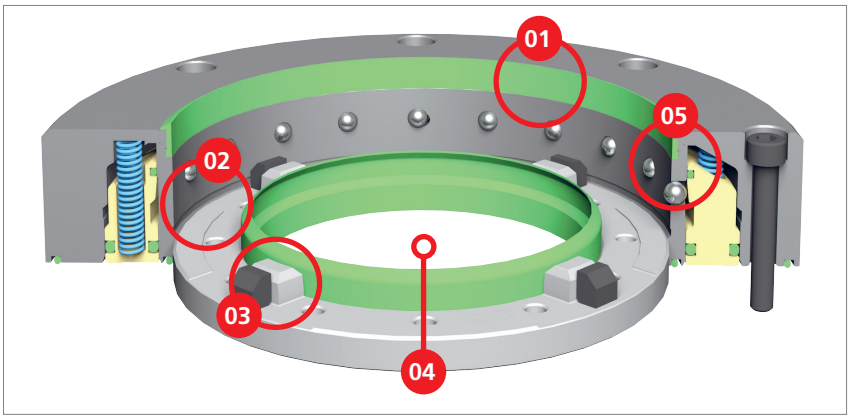
Applications

Handling

Manual / Loading facility / Robot

Function

Die-plate chuck



01 | Fully sealed system; resistant to powder, contamination and liquids.

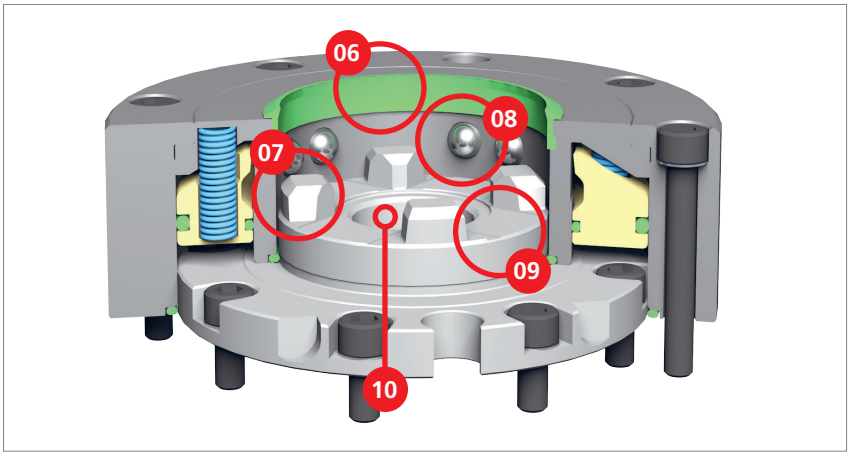
02 | Large contact surface for great force absorption.

03 | Precise «P» centering.

04 | Wide opening for bottom punch.

05 | Patented outside clamping.

Punch chuck



06 | Fully sealed system.

07 | Precise «P» centering.

08 | Patented outside clamping.

09 | Large contact surface for great force absorption.

10 | 25 mm clearance for center pin or second punch.

PM Tooling

Technical data - PM Tooling Precise

PM Tooling Precise	System size	Max. admissible pressing force
Punch chuck	PM60	500 kN
	PM85	1000 kN
Die-plate chuck	PM128	1000 kN

EROWA PM Tooling

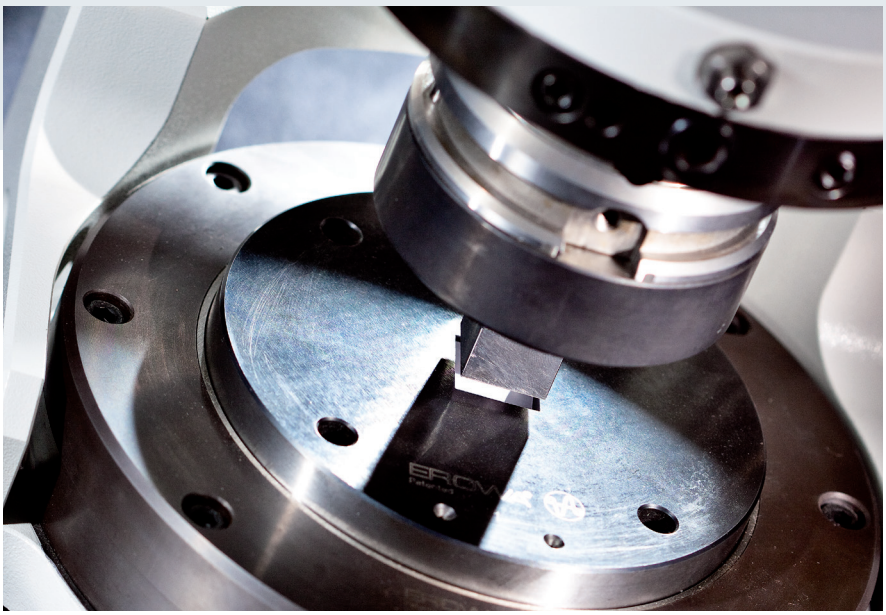
Universal from milling to pressing

With the EROWA PM tooling system, punches and die plates are fitted to pallets and manufactured with datum-point precision.
Compatibility with other EROWA tooling systems enables your production machine to be fully automated. Workpieces run through the entire production chain on pallets:

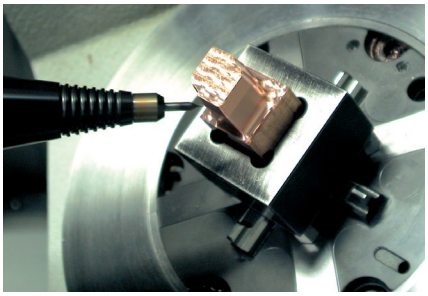
FACTS

- High stability thanks to patented external clamping
- Repeating accuracy < 0.002 mm
- Pallets 4x90° indexable
- User-friendly
- Many adaptation possibilities

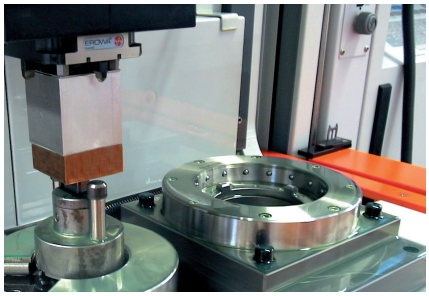




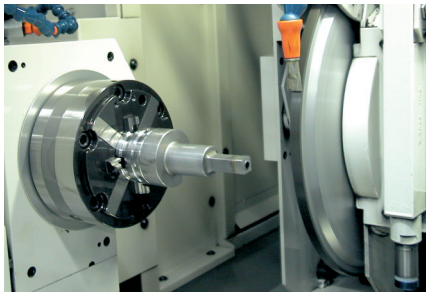
Precision is required to produce powder pressings of the best quality. EROWA's high-precision quick-clamping systems play a crucial role here.



Milling
Electrodes used to EMD the molds are machined on ITS system holders.



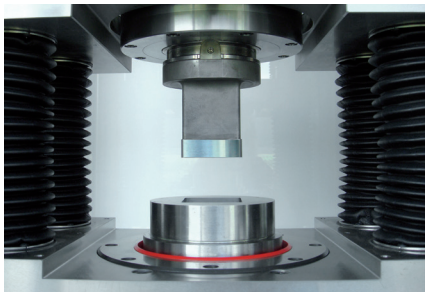
EDM
Shapes in the surface of the punches are EDMed.



Grinding
Punches may also be machined on cylindrical grinding machines.



Wire-EDM
The contours are produced on a WEDM center. The reference position is provided by the chuck.



Powder pressing
Top and bottom punches and the die plate are inserted into the press. The reference positions are provided by the precisely aligned chucks.



EROWA PM Tooling

For great part diversity



To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation
2. Operate with compressed air jet
3. Operate with manual valve
4. Operate with manual control unit
5. Operate with electro-pneumatic control unit
6. With central flushing clearance
7. Suited for submerged operation
8. Corrosion-resistant material
9. Suited for automatic operation
10. Handling with EROWA Robot gripper S
11. Handling with EROWA Robot gripper Combi
12. Handling with EROWA Robot gripper C
13. Handling with EROWA Robot gripper 72
14. Handling with EROWA Robot gripper 115
15. Handling with EROWA Robot gripper 148
16. Handling with EROWA Robot gripper RN PC 210
17. Handling with EROWA Robot gripper RCS
18. Handling with EROWA Robot gripper WGS-500

EROWA PM TOOLING

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PM Tooling	Spindle adaptation, pallets	325

For chip-removing processes

For EDM sinking

For WEDM

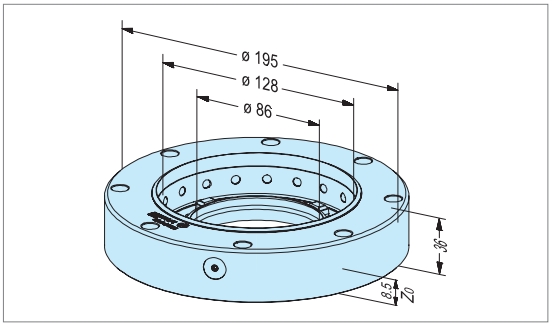
EROWA PM Tooling Precise

Chucks

Technical data	PM chucks
Repeatability	< 0.002 mm
Indexation	4 x 90°
Opening with compressed air	min. 6 bar
Clamping	Spring pressure

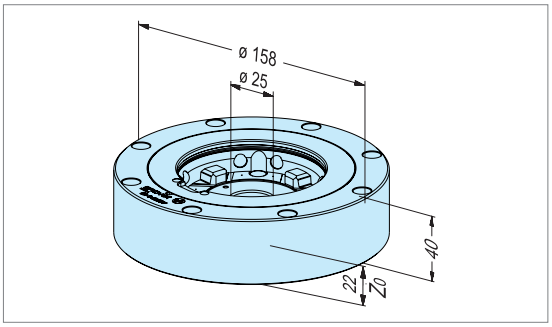
ER-047544 Die-plate chuck PM128 II Precise

Version	Steel, hardened. Through borehole ø 86. External seal.
Clamping power	23,000 N (reclamped at 6 bar)
Connections	At the rear, with two lines.
Operation	With control unit.
Application	On milling machines and powder presses. To accommodate die-plate pallets PM128 Precise.



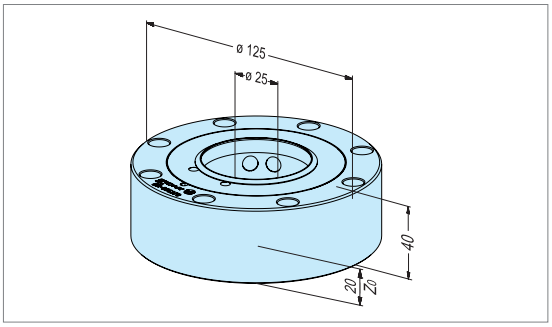
ER-040697 Chuck PM85 Precise

Version	Steel, hardened, corrosion-resistant. Through borehole ø 25.
Clamping power	9,000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	On milling machines, lathes, EDM/WEDM centers and powder presses. To accommodate pallets PM85 Precise.

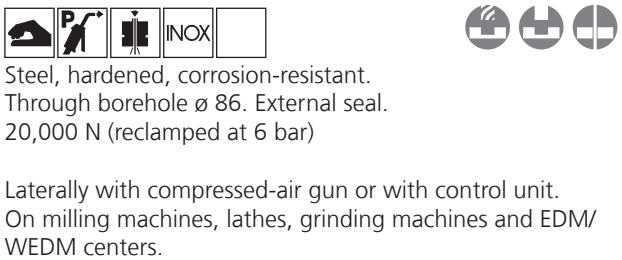


ER-055370 Chuck PM60 Precise

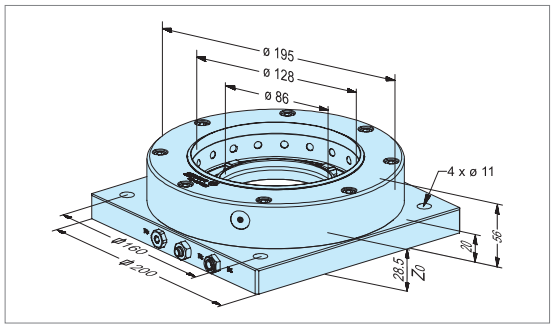
Version	Steel, hardened, corrosion-resistant. Through borehole ø 25.
Clamping power	6,500 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	On milling machines, lathes, EDM/WEDM centers and powder presses. To accommodate pallets PM60 Precise.



ER-047566 Die-plate chuck PM128 II Precise with base plate



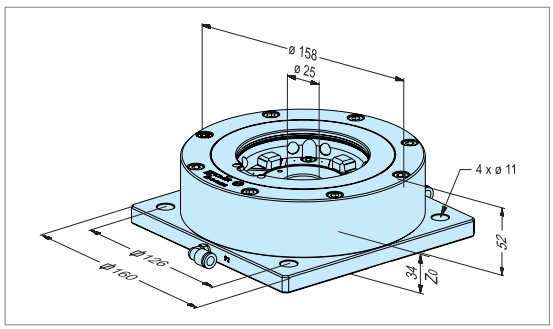
Version	Steel, hardened, corrosion-resistant. Through borehole ø 86. External seal.
Clamping power	20,000 N (reclamped at 6 bar)
Operation	Laterally with compressed-air gun or with control unit.
Application	On milling machines, lathes, grinding machines and EDM/WEDM centers. To accommodate die-plate pallets PM128 Precise and Multi.



ER-040696 Chuck PM85 Precise with base plate



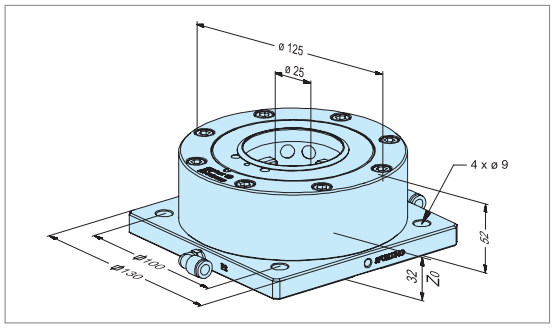
Version	Steel, hardened, corrosion-resistant. Through borehole ø 25.
Clamping power	9,000 N.
Connections	Laterally, with two lines.
Operation	With control unit.
Application	On milling and grinding machines and on EDM/WEDM centers. To accommodate pallets PM85 Precise and Multi.



ER-047500 Chuck PM60 Precise with base plate



Version	Steel, hardened, corrosion-resistant. Through borehole ø 25.
Clamping power	6,500 N.
Connections	Laterally, with two lines.
Operation	With control unit.
Application	On milling and grinding machines and on EDM/WEDM centers. To accommodate pallets PM60 Precise.



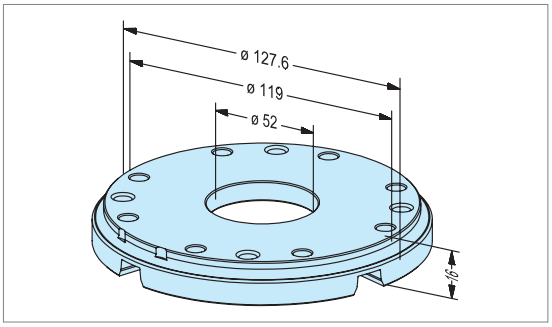
EROWA PM Tooling Precise

Pallets

ER-034680 **Die-plate pallet PM128 ø 52 Precise 1 piece**

INOX

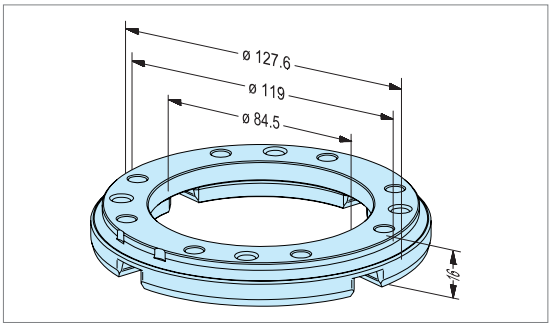
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 52 mm.
Application	For use on die-plate chuck PM128 Precise. To accommodate die plates, workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.



ER-046927 **Die-plate pallet PM128 ø 84.5 Precise 1 piece**

INOX

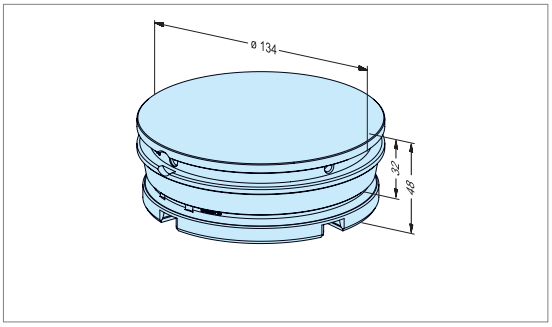
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 84.5 mm.
Application	For use on die-plate chuck PM128 Precise. To accommodate die plates, workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.



ER-081885 **Die-plate pallet PM128 ø 135 Precise for gripper PM128**

INOX auto

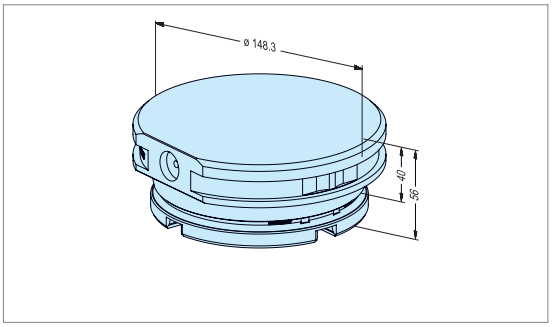
Version	Steel, hardened, rust-resistant. Centering integrated in the pallet.
Application	For use on PM128 Precise chucks. To accommodate workpieces and fixtures in chip-cutting machining, EDM and WEDM, and powder pressing.
Mounting a blank	With freely choosable attachment boreholes within ø 120 mm (upper part unhardened).



ER-082717 **Die-plate pallet PM128 ø 148 Precise for gripper ITS 148**

INOX auto 148

Version	Steel, hardened, rust-resistant. Centering integrated in the pallet.
Application	For use on PM128 Precise chucks. To accommodate workpieces and fixture in chip-cutting machining, EDM and WEDM, and powder pressing.
Mounting a blank	With freely choosable attachment boreholes within ø 140 mm (upper part unhardened).



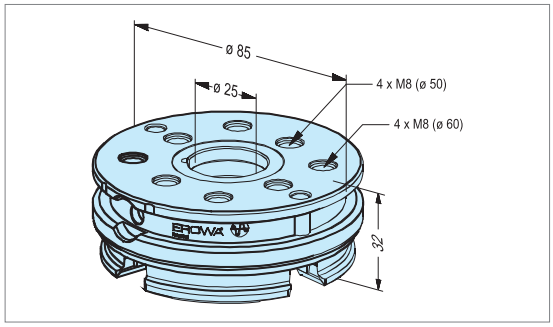
ER-040701 Pallet PM85 Precise 1 piece

INOX auto

Version: Steel, hardened, corrosion-resistant.
Centering integrated in pallet. Inside ø 25 mm.

Application: For use on Chuck PM85 Precise. With chucking spigot ER-039839 on ProductionChuck 210 Combi, PowerChuck P, ITS Chuck 100 P and QuickChuck 100 P. To accommodate workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.

Fitting blanks: Through the pallet with M6 bolts or through the workpiece with M8 bolts.



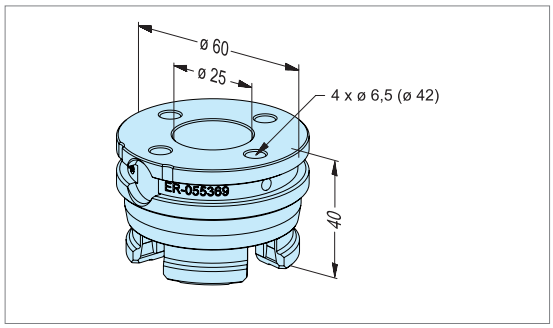
ER-055369 Pallet PM60 Precise 8 pieces

INOX auto

Version: Steel, hardened, corrosion-resistant.
Centering integrated in pallet. Inside ø 25 mm.

Application: For use on Chuck PM60 Precise. With chucking spigot ER-041429 on ProductionChuck 210 Combi, PowerChuck P, ITS Chuck 100 P and QuickChuck 100 P. To accommodate workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.

Fitting blanks: Through the pallet with M6 bolts.

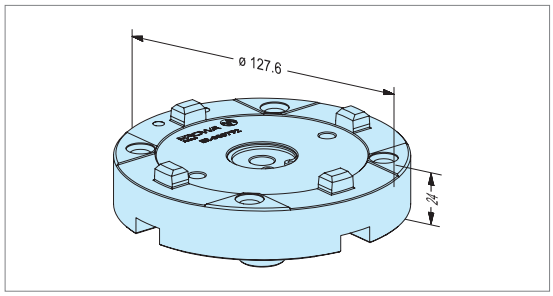


ER-035792 Adapter pallet H24 PM Precise for die-plate pallet PM128

INOX

Version: Hardened steel, corrosion-resistant.
Height of pallet: 24 mm.

Application: Serves as an adapter between the die-plate pallets PM128 Precise and Multi and an ITS Chuck 100 P or a PowerChuck P.



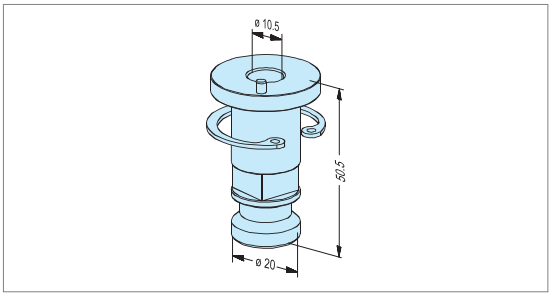
EROWA PM Tooling

Accessories

ER-039839	**Chucking spigot PM85 automatic 8 pieces**
ER-046075	**Chucking spigot PM85 automatic 1 piece**

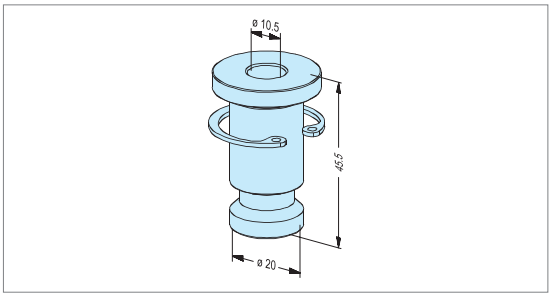
auto

Version Steel, hardened. Automatic, with borehole ø 10.5.
Application In pallets PM85 Precise. To be fitted with securing ring.



ER-041429	**Chucking spigot PM56 / PM60 manual 8 pieces**
ER-045759	**Chucking spigot PM56 / PM60 manual 1 piece**

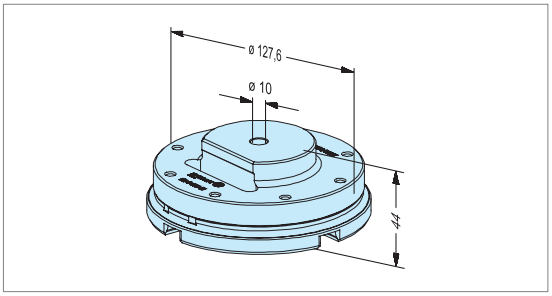
Version Steel, hardened. Manual, with borehole ø 10.5.
Application In pallets PM56 and PM60 Precise. To be fitted with securing ring.



ER-049248	**Alignment pallet PM128 Precise for die-plate chuck PM128 Precise**

INOX

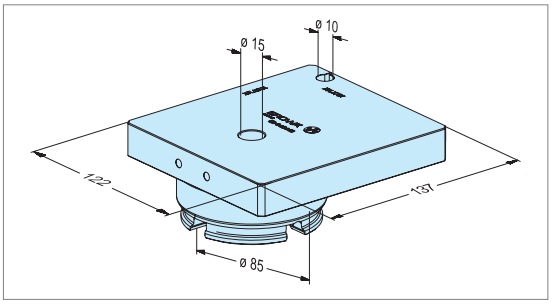
Version Steel hardened, corrosion-resistant. Ground alignment surface and centering borehole ø 10.
Application In tool- and mold-making. For alignment of the angle position and determination of the center of the die-plate chuck PM128 Precise.



ER-042440	**Alignment pallet PM85 Precise**

INOX

Version Steel hardened, corrosion-resistant. Ground alignment surface, center borehole ø 15 and position borehole ø 10.
Application In tool- and mold-making. Alignment of the angle position and determination of the center of PM85 Precise chucks.

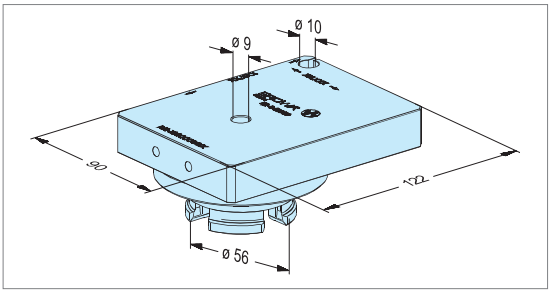


ER-042350 Alignment pallet PM56 / PM60 Precise

INOX

Version: Steel hardened, corrosion-resistant. Ground alignment surface, center borehole ø 9 and position borehole ø 10.

Application: In tool- and mold-making. To align the angular position and to determine the center of PM56 and PM60 Precise chucks.

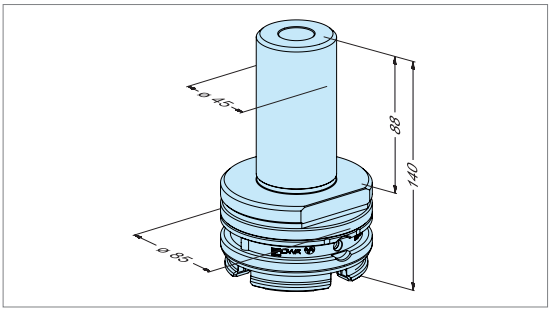


ER-043427 Alignment pin PM85 Precise

INOX auto

Version: Steel hardened, corrosion-resistant. Ground alignment surface and ø 45.

Application: Alignment of the radial and axial positions of PM85 Precise chucks.

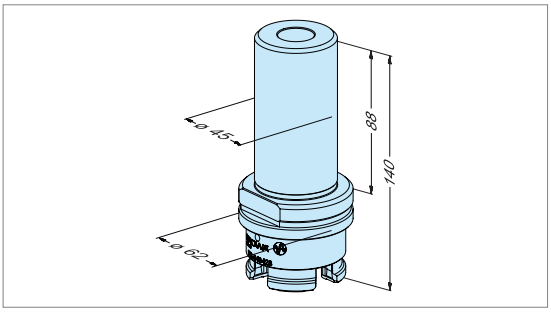


ER-043428 Alignment pin PM56 / PM60 Precise

INOX auto

Version: Steel hardened, corrosion-resistant. Ground alignment surface and ø 45.

Application: Alignment of the radial and axial positions of PM56 and PM60 Precise chucks.



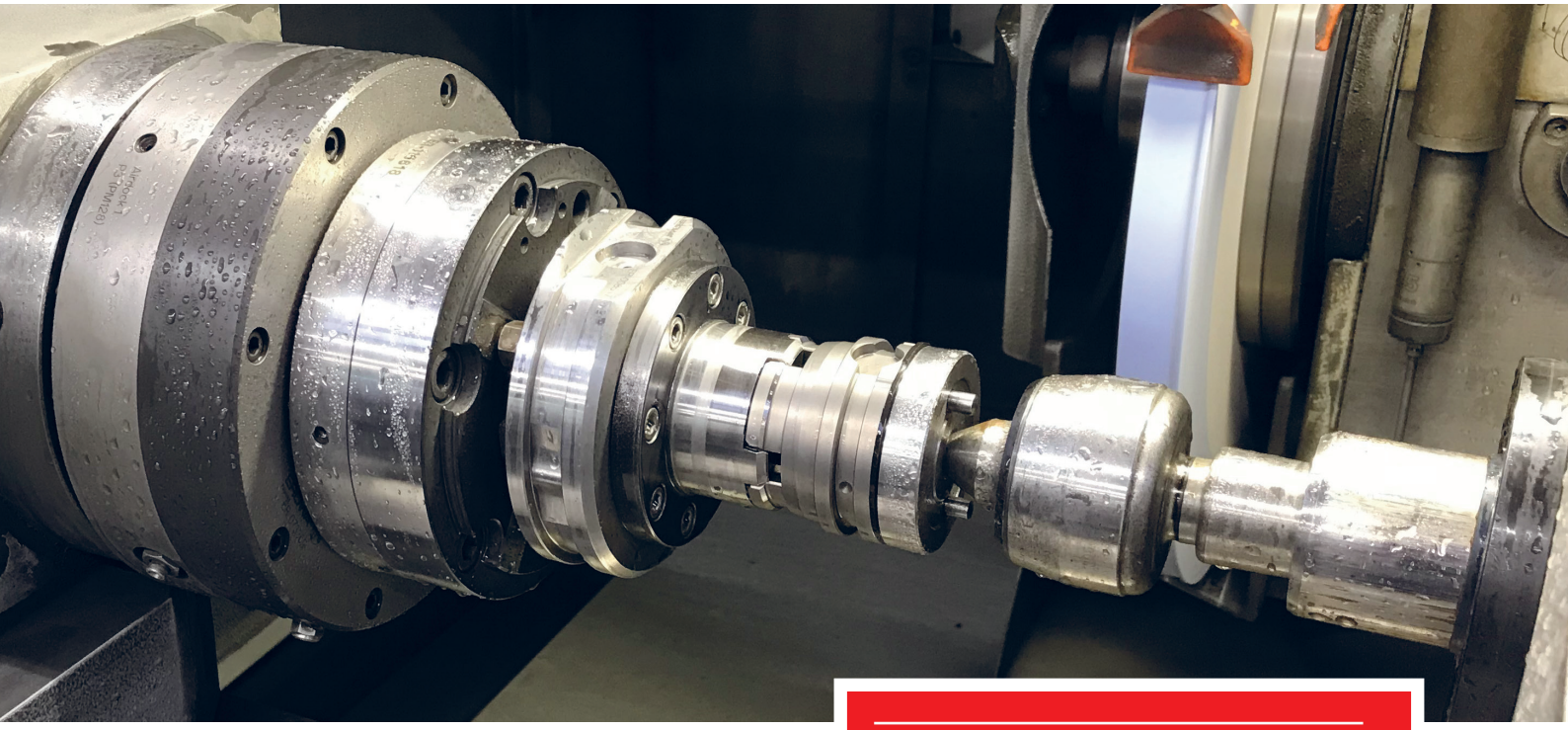
Please note: you can find the entire range in the EROWA PM Tooling System Catalog.

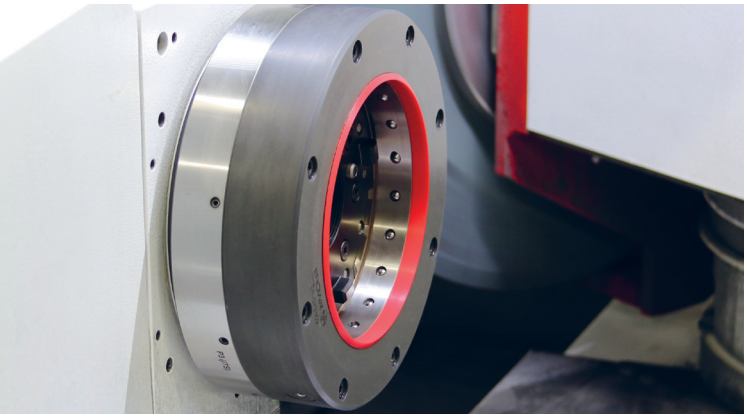
EROWA spindle adaptation

Minimize resetting time - increase productivity!

With the help of EROWAs spindle-adaptation solution, productive time - for instance in circular grinding - can be substantially increased.

The changeover from a three-jaw chuck to a pneumatically operated tooling system and to customized jigs only takes a few seconds - whilst the highest degree of precision is retained. The basis for all adaptations is the EROWA PM chuck. It is integrated with the machine spindle with the help of a suitable flange. The overall solution is impressive, not least owing to its robust and compact design.





FACTS

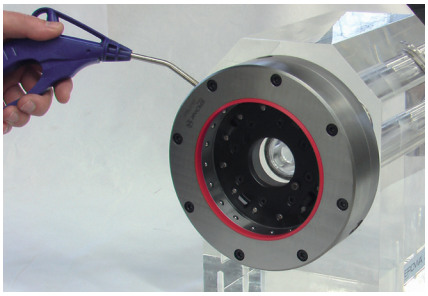
- Substantially shorter resetting times
- Minimum height
- Highest stability and repeatability
- Maximum concentric accuracy
- Pneumatic control of adaptations
- Fully sealed
- Capable of being automated

Applications

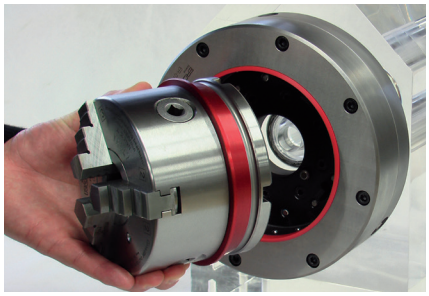
Handling

Manual / Loading facility / Robot

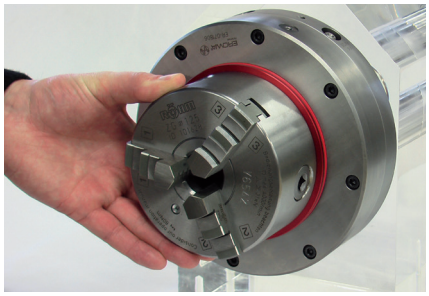
Sample application



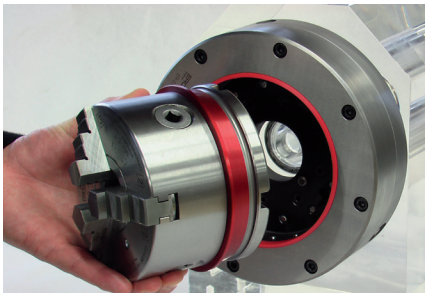
The chuck integrated with the machine spindle is opened with compressed air, either through an air-gun or through a fixed air supply.



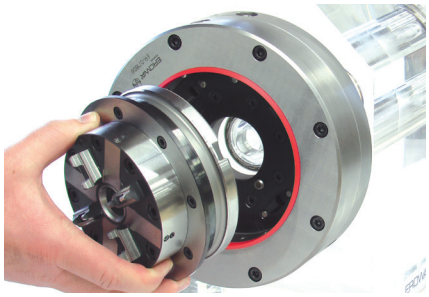
The three-jaw chuck is inserted. Both run-out and concentricity are repeated to an accuracy of 0.002 mm.



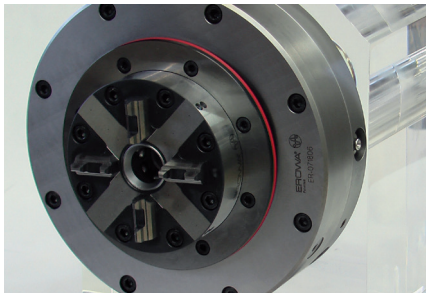
The system is ready for operation in next to no time. Resetting is no longer an essential time factor.



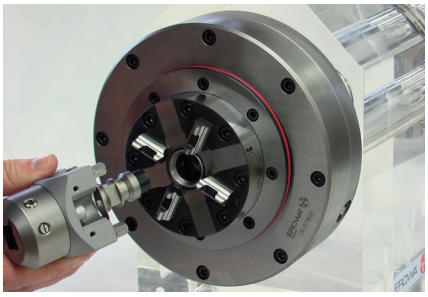
The base chuck is opened and the three-jaw chuck is removed.



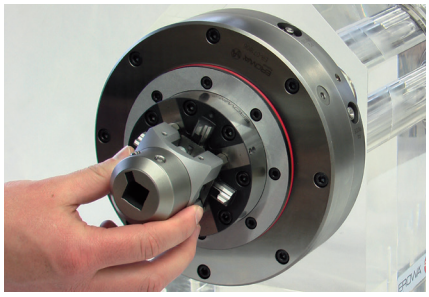
The palletized EROWA ITS chuck is inserted. The contour of the pallet completely seals off the spindle.



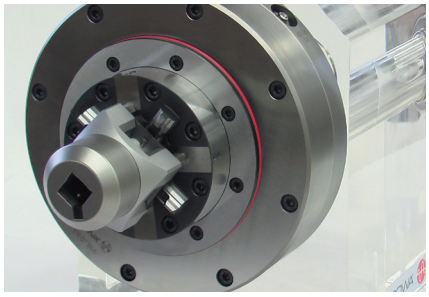
Ready for clamping and positioning to an accuracy of 0.002 mm.



The ITS chuck is opened through the integrated air coupling.



Any EROWA ITS system carrier can be clamped safely, quickly and precisely.



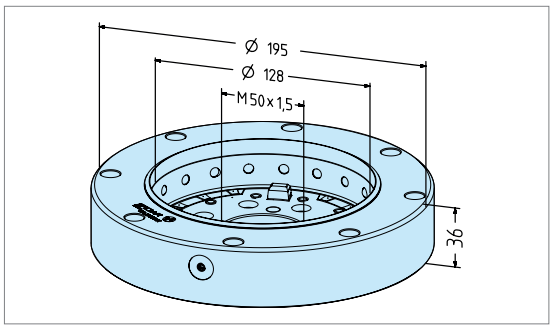
The ITS square holder, for example, serves as a fast-exchange facility for small workpieces or electrode blanks.

EROWA spindle adaptation

Chucks

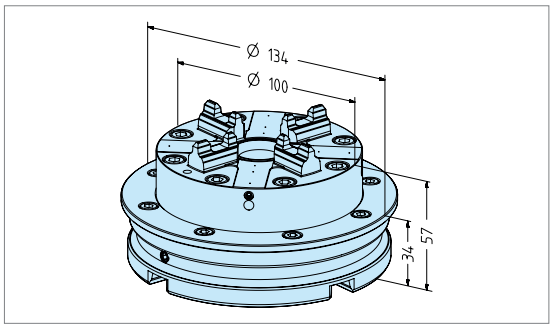
Technical data	PM chuck
Repeatability	< 0.002 mm
Indexation	4 x 90°
Opening pressure (pneumatic)	min. 6 bar
Clamping	Spring pressure

ER-073369 Die-plate Chuck PM128 II AirDock



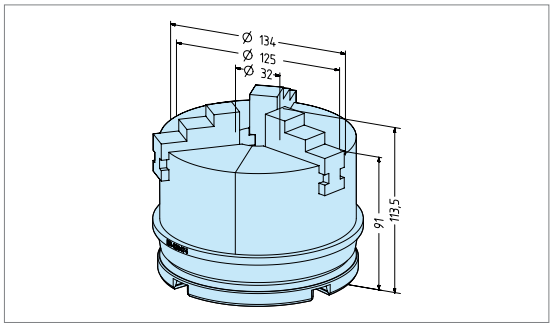
Version	Hardened steel. Through hole: ø 48. Outside seal. Positioning ring, including 2 AirDock valves. Max. speed 4000 min-¹.
Clamping power	23,000 N (reclamped at 6 bar).
Connections	At the rear through customized base plate, flange or rotatable pneumatic connector (not supplied with this unit).
Operation	With compressed-air gun, control unit or through the machine control unit.
Application	On dividing heads, indexing tables, lathes and circular grinding machines. To accommodate adapter chuck, die-plates PM128 and customer-specific jigs.

ER-078473 ITS Chuck 100 P on die-plate pallet PM128 Precise



Version	Hardened steel.
Clamping power	ITS Chuck 100 P: 6,000 N.
Connections	At the rear, to die-plate PM128.
Operation	Through AirDock valves. With compressed-air gun, control unit or through the machine control unit.
Application	As adapter chuck in the die-plate chuck PM 128 II AirDock. To accommodate electrode holders, pallets ø 115, ø 148, PM56, PM60 and PM85 Precise.

ER-078474 Manual 3-jaw concentric chuck ø 125 mm on die-plate pallet PM128 Precise



Version	Manual 3-jaw concentric chuck ø 125 mm. Central clamping area 3-53mm. Body made of cast metal. High degree of concentricity according to DIN 6386. Includes 3 hardened drilling jaws (stepped on the outside), 3 hardened turning jaws (stepped on the inside), 1 spanner.
Note	Max. speed 4,000 min-¹.
Application	As adapter chuck in the die-plate chuck PM128 II AirDock.

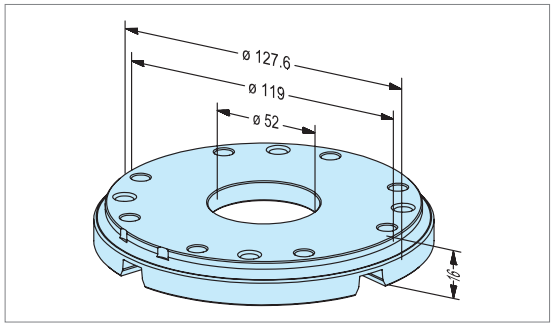
EROWA spindle adaptation

Pallets

ER-034680 Die-plate pallet PM128 ø 52 Precise
1 piece

INOX

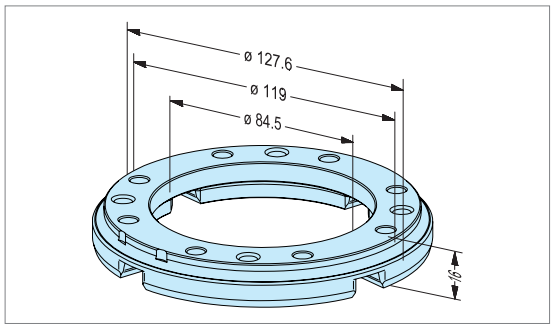
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 52 mm.
Application	For use on die-plate chuck PM128 Precise. To accommodate die plates, workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.



ER-046927 Die-plate pallet PM128 ø 84.5 Precise
1 piece

INOX

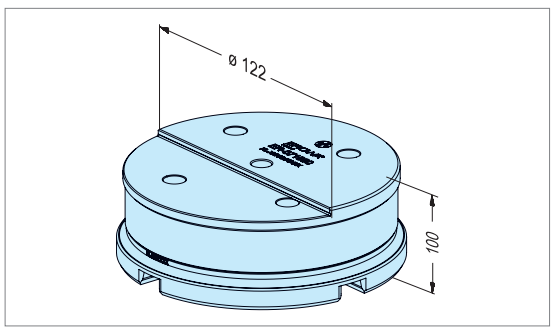
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 84.5 mm.
Application	For use on die-plate chuck PM128 Precise. To accommodate die plates, workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.



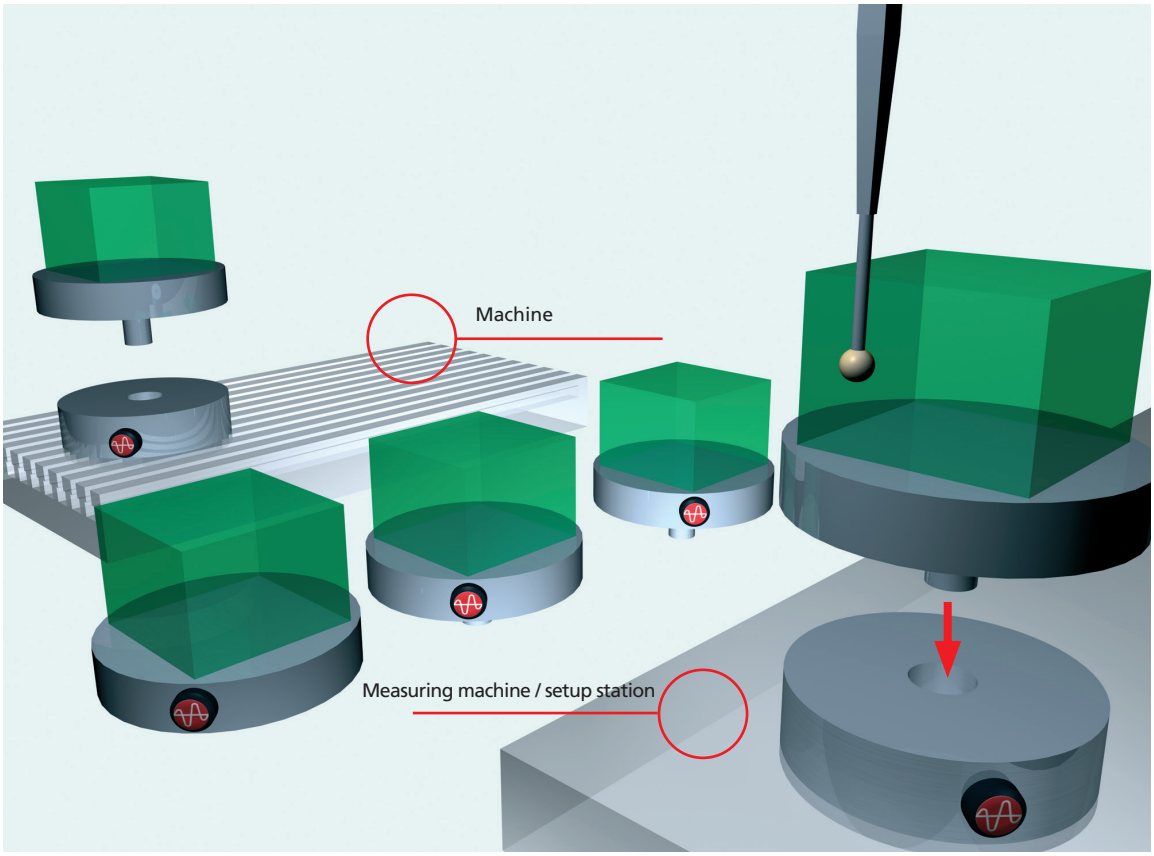
ER-071890 Alignment pallet PM128 Precise
for die-plate chuck PM128 AirDock / HP

INOX

Version	Hardened steel, corrosion-resisitant. With ground alignment surface and ø 122 mm. Including M50 x 1.5 threaded insert.
Application	For tool- and mold-making. To align angle position and determine the center of die-plate chucks PM128 AirDock and High precision.



EROWA quality measuring and presetting systems



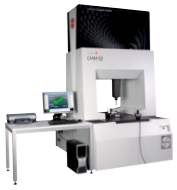
Organization of electrodes and workpieces. All the workpieces and electrodes are set up outside the machine. If necessary, their offset values are determined outside the machine. Thus programs can be generated in advance, and automation becomes possible.
Quality measurements enhance process safety and are an important factor for successful quality management.

For chip-removing processes

For EDM sinking

For WEDM

EROWA QUALITY MEASURING AND PRESETTING SYSTEMS



EROWA CMM Qi 328



EROWA PreSet 3D CNC 334



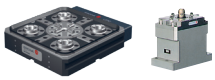
EROWA PreSet 3D MAN 336



EROWA PreSet 2D
EROWA PreSet 2D +C 338



EROWA PreSet Basic UPC 340
EROWA PreSet Basic PalletSet W 340
EROWA PreSet Basic UnoSet 340



Basic equipment / options
for CMM Qi / PreSet 3D 342



Measuring tools and options
for EROWA measuring systems 344

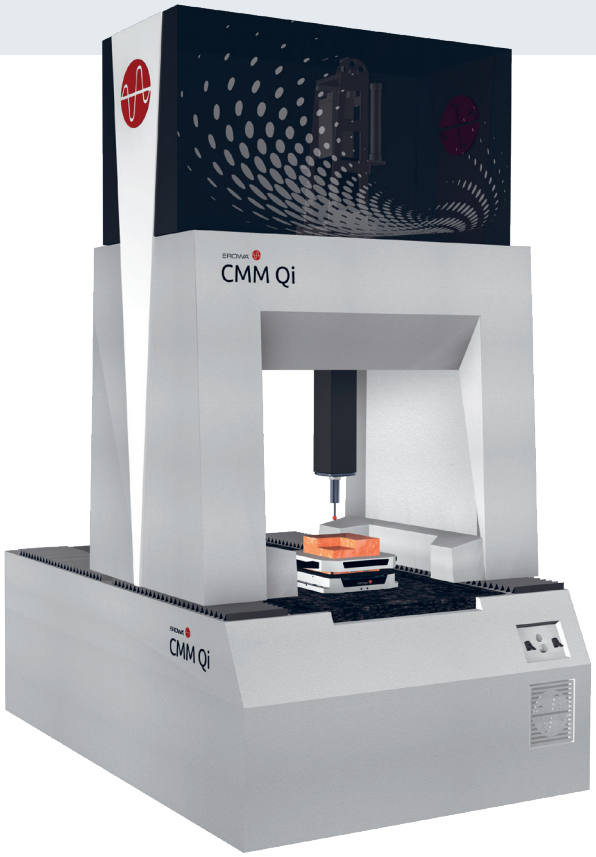


Software for EROWA measuring system
- EROWA PreSoft 346
- ARCO-CAD 347
- EROWA PreSet Configurator 348
- Metrolog X4 349
- EROWA Q-Measure 350
- EROWA Quick Link XT 352
- EROWA JMS 4.0 Organization 354

EROWA CMM Qi

Top-precision quality measurements

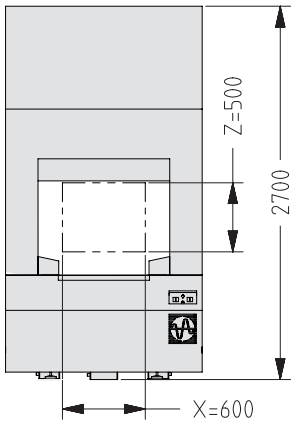
Thanks to its solid design, the EROWA CMM Qi high-quality measuring station provides maximum mechanical precision, combining EROWA products into a consistent high-precision system.

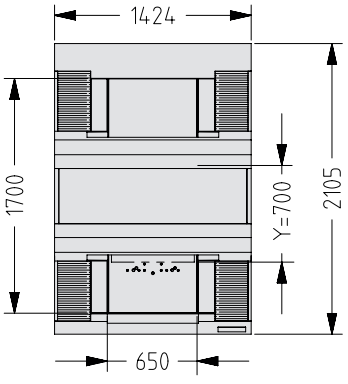


EROWA CMM Qi

- Measuring station (worktop with hole pattern for all EROWA tooling systems)
- Pneumatic control system
- PC and color printer (optional)
- Software for presetting and quality measurements
- Renishaw measuring probe (optional)
- Calibration sphere

For more information, please contact your EROWA dealer.





Technical data

	CMM Qi
X-axis travel	600 mm
Y-axis travel	700 mm
Z-axis travel	500 mm
Maximum distance between table and probe holder (without probe)	668 mm
Maximum distance between the columns at table height	650 mm
Usable area of the granite slab (with EROWA hole pattern)	650 x 1700 mm
Measuring uncertainty in the volume (as per ISO 10360/2)	
Standard	1.5 µm + L/500
High Precision	0.7 µm + L/500 (L in mm)
Machine dimensions	
Dimensions L x W x H	2100 x 1500 x 2700 mm
Maximum loadable workpiece weight	650 kg
Machine weight (without load)	2350 kg

THE FACTS

- Basic mechanical accuracy
- Solid natural granite slab
- Prepared for EROWA tooling systems
- High process reliability
- Can be automated
- Comprehensive software package for presetting, quality measurements and automation



CMM Qi

01 | Rails
High-precision Renishaw rails with optical read heads ensure excellent results.

02 | Renishaw probing systems
high-precision measuring probe systems for the greatest flexibility.

03 | Centric drives
Centric drives for symmetric movements.

04 | Symmetric machine layout
Special aluminum casting for excellent shape and temperature stability as well as guide rails made from granite.

05 | Software
With the EROWA presetting and measuring software, presetting data can be recorded in a very simple way and quality measurements are both precise and retraceable.

06 | Various clamping systems
Depending on your requirements, one or more EROWA tooling systems can be mounted to the solid table. All the necessary boreholes already exist. FrameSet, MTS, UPC or ITS – all variants are supported.

07 | Integrated operation
Already prepared for the control of the various tooling systems.

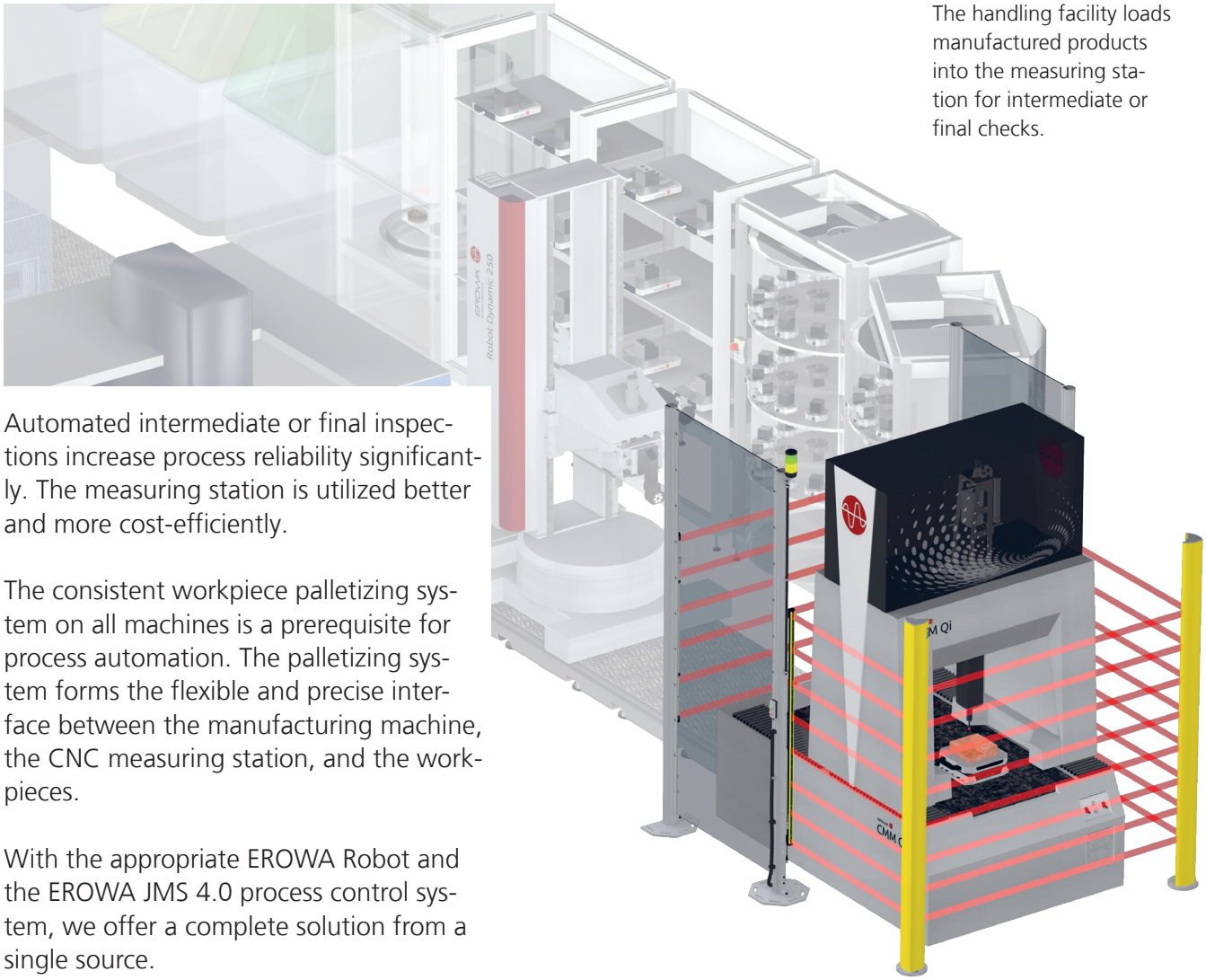
08 | Joystick control
Optimal operation for secure measurements. One control lever for all axes. Optionally also available as a wireless joystick.

09 | Natural granite
The solid granite slab combined with the specially cast portal constitutes the basis for precision.

10 | Full enclosure
Best possible shielding against external influences as well as controlled air circulation around the measuring system. Maximum precision even in a production environment.

EROWA CMM Qi

Continuous quality monitoring



The handling facility loads manufactured products into the measuring station for intermediate or final checks.

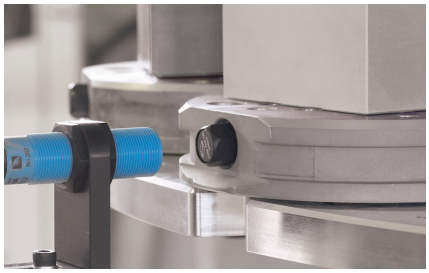
Automated intermediate or final inspections increase process reliability significantly. The measuring station is utilized better and more cost-efficiently.

The consistent workpiece palletizing system on all machines is a prerequisite for process automation. The palletizing system forms the flexible and precise interface between the manufacturing machine, the CNC measuring station, and the workpieces.

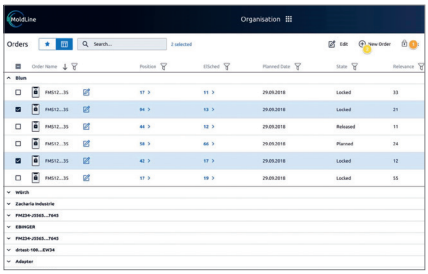
With the appropriate EROWA Robot and the EROWA JMS 4.0 process control system, we offer a complete solution from a single source.



With the automatic pallet detection feature via RFID chip, you can view where each part is located in the manufacturing chain at any time. Status messages can also be sent to the operator via SMS.



Using the automation kit (option), the CMM Qi can be loaded by an EROWA robot. The CNC control allows automatic quality measurements.



The automatic in-process or final check boosts process reliability to an essential degree. The machine is used to better capacity and thus becomes more profitable. Also, reject costs can be reduced.

EROWA CMM Qi

Custom options

Hardware/software maintenance agreements

For a full-service package, we offer customized maintenance agreements for hardware and software.

The periodic updates ensure that you are always running the most recent software version to supports the latest technologies. The agreements also ensure that you receive prompt support for all issues. In addition to this, regular maintenance guarantees a high level of availability for the equipment.

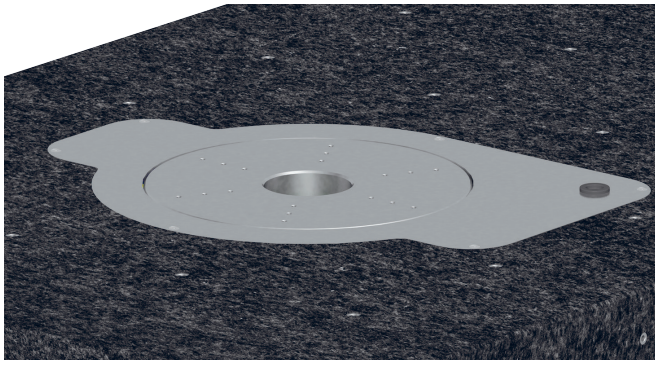
With the appropriate maintenance agreements, you can ensure that your measuring system is always compatible and reliable.
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more information: Weblink

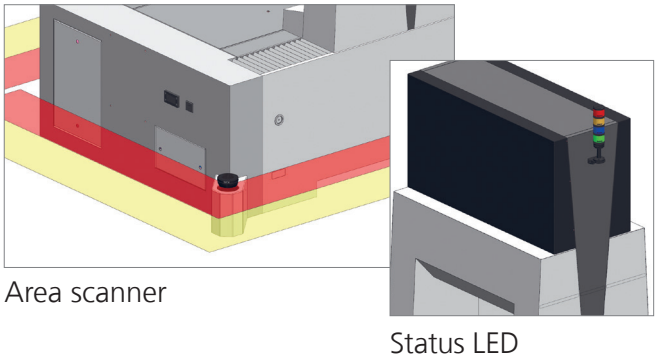
Rotary table – measuring in an additional dimension

The rotary table is fully integrated into the measuring station and allows measuring in a 4th axis. Prismatic parts as well as rotation-symmetrical parts can be measured quickly and efficiently.



Customized systems on request

Whether dial gage holders, chuck units, status LEDs, hour counters or area scanners – we can configure the measuring system to meet your requirements.



Area scanner

Status LED

EROWA CMM Qi

Tactile sensors
High-precision shape and profile capturing

Tactile sensors are the right choice when very high precision is required.
Tactile measuring probes scan the surface of the parts.
EROWA offers a large selection of tactile measuring probes, ranging from simple, cost-efficient probe elements to high-resolution tactile scan systems. This is to always ensure the optimum solution for your application.

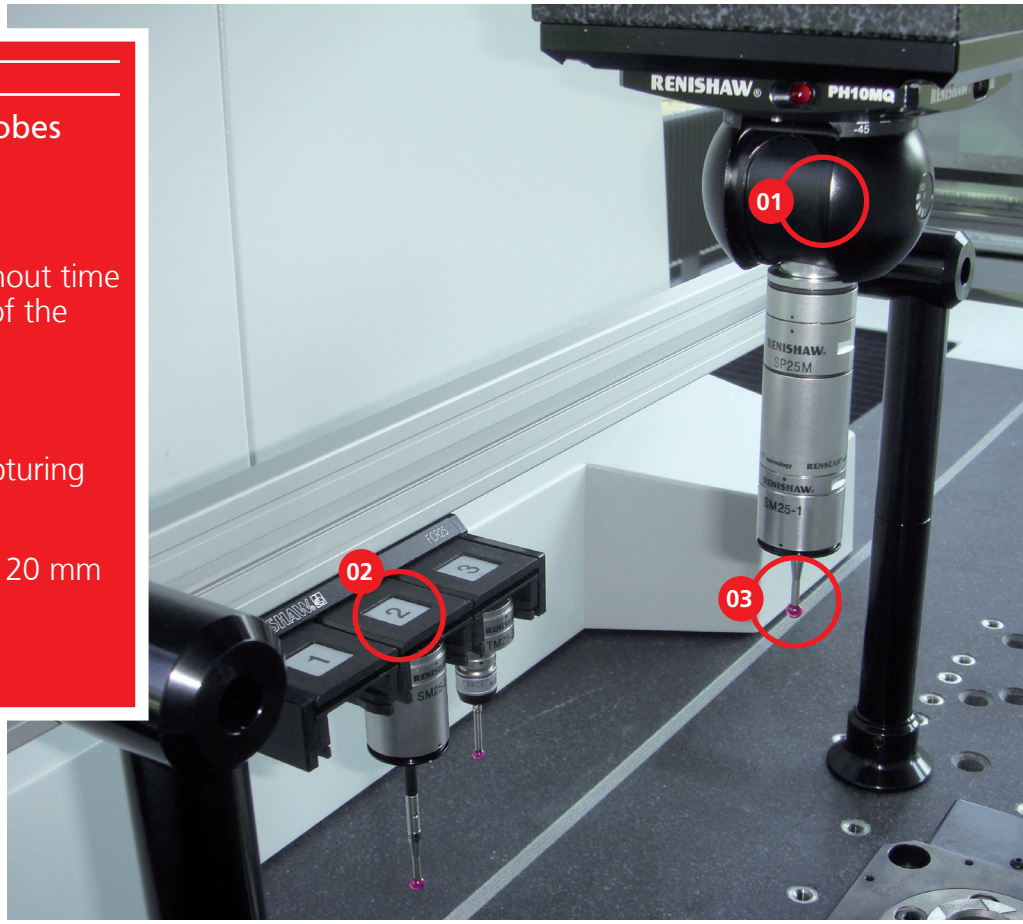
THE FACTS

EROWA touch trigger probes

- Robust and compact
- Cost-optimized
- Fast module changes without time consuming recalibration of the probe insert tips

EROWA scanning probes

- Fast shape and profile capturing
- High precision
- Probe insert lengths from 20 mm to 400 mm possible



For «normal» measuring, the measuring station can be equipped with compact touch trigger probes with module change, which allow a variety of probe application configurations for measuring characteristics even on complex workpieces.

Tactile scanning is used where a variety of geometries have be captured and checked in a short time or where high requirements for the evaluation of dimensional deviations exist.

01 | Rotary/swivel head
The PH10MQ is a motorized rotary/swivel head with 7.5° indexation. It is mounted directly in the measuring quill. This maximizes working range of the CMM Qi.

02 | Change magazine
The FCR25 change magazine allows quick, automatic pin probe changes to select the optimum probe configuration for each measuring application.

03 | Scanning accuracy
The SP25M offers a scanning functionality. The Renishaw scanning modules 1 and 2 recommended by EROWA are optimized for pin probe lengths of 20 mm to 105 mm to achieve superior scanning accuracy.

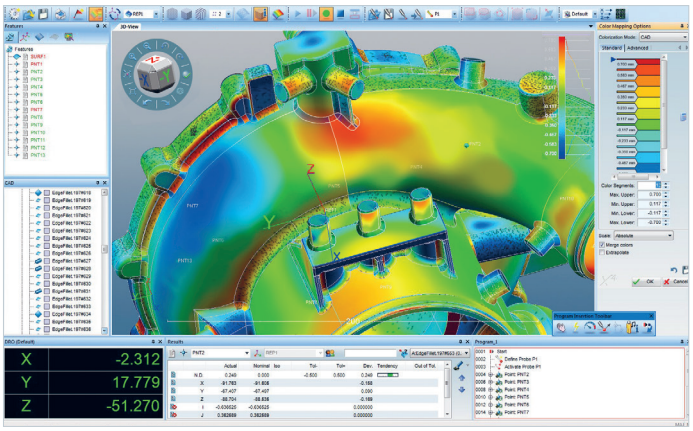
EROWA CMM Qi

Laser scanning
High speed data recording

Laser scanning is a contact free, efficient measuring method. Objects are captured digitally with a high level of detailing and in a short time.

Laser scanners offer an interesting alternative for capturing even large workpiece surfaces in the shortest time possible. In addition to this, they can generate digital data for reverse engineering.
All sides of the parts can be reached in combination with a motorized swiveling/indexing head. Tactile measurements are also possible, offering unrivaled flexibility. This can be achieved with the measuring probe attached on the underside or by changing between scanner and measuring probe using an automatic change magazine.





The laser scanner generates a points cloud. The resulting color surface diagram (color mapping) is clearly structured and allows intuitive inspection of dimensional accuracy.

THE FACTS

EROWA laser scanning

- Contact free
- Fast and easy capturing of parts geometry
- Easy evaluation
- Can be combined with tactile measuring systems

EROWA PreSet 3D CNC

Simple presetting - automatic series measurements

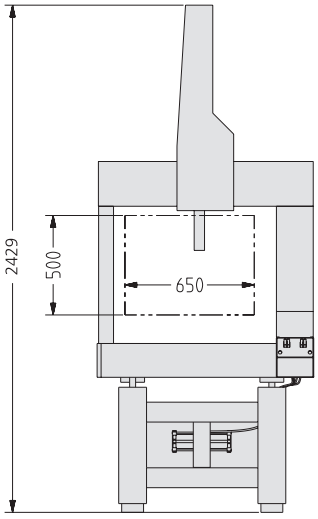
Machine tools need to be relieved of unproductive tasks as much as possible. Presetting and measuring workpieces and electrodes are tasks that can be carried out more efficiently on a measuring station.
With the Preset 3D CNC, you provide your operators with a machine that is perfectly designed for this task.

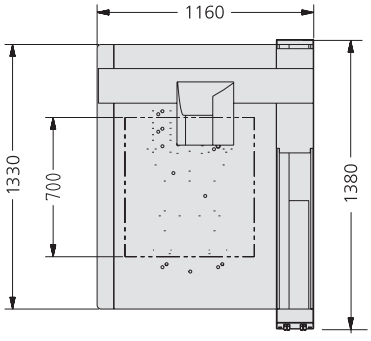


EROWA PreSet 3D CNC

- Measuring station (worktop with hole pattern for all EROWA tooling systems)
- Pneumatic control system
- PC and color printer (optional)
- Software for presetting and quality measurements
- Renishaw measuring probe (optional)
- Calibration sphere

For more information, please contact your EROWA dealer.





Technical data

	PreSet 3D CNC
X-axis travel	650 mm*
Y-axis travel	700 mm*
Z-axis travel	500 mm*
Maximum distance between table and probe holder (without probe)	688 mm
Maximum distance between the columns at table height	819 mm
Usable area of the granite slab (with EROWA hole pattern)	819 x 1330 mm
Measurement inaccuracy in the volume (as per ISO 10360/2)	2.5 µm + L/300
Machine dimensions	
Dimensions LxWxH	1380 x 1160 x 2429 mm
Maximum loadable workpiece weight	650 kg
Machine weight (without load)	775 kg

* Other movements available on request.
Depending on the machine type, the values may diverge from the data indicated here.

THE FACTS

- Animated presetting programs
- User-friendly quality measuring software
- Integrated hole pattern for mounting the EROWA chucks
- Can be automated
- Reliable workpiece identification with EWIS™
- Temperature check
- Comprehensive software package for presetting, quality measurements and automation



01 | Rails
High-precision Renishaw rails with optical probe heads guarantee the best results.
Renishaw probe unit
For top quality and unmatched flexibility.

02 | Machine design
Specially cast aluminum for optimal dimensional and thermal stability.

03 | Natural granite
The high-precision workplate of black granite constitutes the base for all EROWA tooling systems that can be set up. Attachment boreholes have been prepared.

04 | Joystick control
Optimal operation for safe measurement. One joystick for all the axes.

Software
With the EROWA presetting software, presetting data can be collected very simply and with graphic support.

Tooling system operation
All the systems can be opened by means of simple levers.

Motorized axes
All the axes are driven by DC servo motors.

EROWA PreSet 3D MAN

Presetting, setting up and measuring

PreSet 3D MAN meets the highest demands. Thanks to its modular design, the system can be flexibly adapted and extended.
We assume system responsibility for the project, from commissioning through training to maintenance. Convenient and competent.



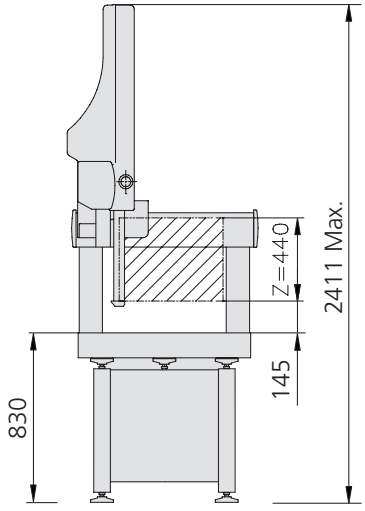
EROWA PreSet 3D MAN
• Measuring station (worktop with hole pattern for all EROWA tooling systems)
• Pneumatic control system
• PC and color printer (optional)
• Software for presetting
• Renishaw measuring probe (optional)
• Calibration sphere

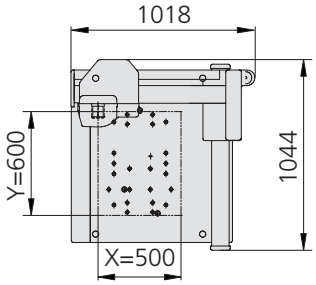
For more information, please contact your EROWA dealer.

Technical data

	PreSet 3D MAN
X-axis travel	500 mm*
Y-axis travel	600 mm*
Z-axis travel	440 mm*
Maximum distance between table and probe holder (without probe)	585 mm
Maximum distance between the columns at table height	720 mm
Usable area of the granite slab (with EROWA hole pattern)	720 x 960 mm
Measuring uncertainty in the volume (as per ISO 10360/2)	3.2 µm + L/300
Machine dimensions	
Dimensions LxWxH	1044 x 1018 x 2411 mm
Maximum loadable workpiece weight	300 kg
Machine weight (without load)	390 kg

* Other movements available on request.
Depending on the machine type, the values may diverge from the data indicated here.





THE FACTS

- Animated presetting programs
- Integrated hole pattern for mounting the EROWA chucks
- Reliable workpiece identification with EWIS™
- Many post-processors for the converting measurement data into machine language are additionally available



01 | Rails
High-precision Renishaw rails with optical probe heads guarantee the best results.
Renishaw probe unit
For top quality and unmatched flexibility.

02 | Machine design
Specially cast aluminum for optimal dimensional and thermal stability.

03 | Natural granite
The high-precision workplate of black granite constitutes the base for all EROWA tooling systems that can be set up. Attachment boreholes have been prepared.

Tooling system operation
All the systems can be opened by means of simple levers.

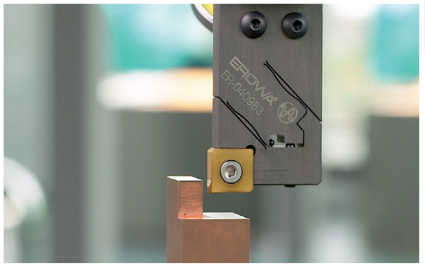
Software
With the EROWA presetting software, presetting data can be collected very simply and with graphic support.

EROWA PreSet 2D

Electrode preset made easy

The electrode presetting station for all applications. The sophisticated design was made for everyday use on the shop floor. Measurements in the X, Y, Z and C axes are performed quickly and reliably. Data output of the measured values is integrated. The presetting station can be equipped with different tooling systems.

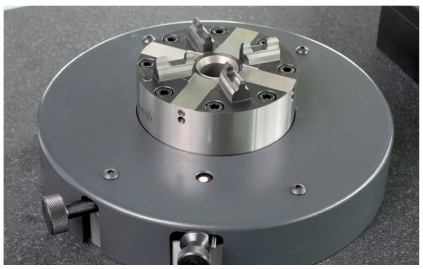




Simply ingenious: The 2D edge probe (EROWA patent) allows you to determine the desired values on radii, edges, corners and sloping surfaces.



The convenient user interface on the EROWA Modus shows you step by step how to find the offsets.



Always correct: The air bearing simulates the C-axis on the EDM machine. The high-precision concentricity identifies even the most minute deviations on the electrodes.

EROWA PreSet 2D

- Measuring plate with carriage or table-top version
- Table-mounted chuck
- Digital display with GAGE-CHEK 2000
- Two-axis measuring unit
- EROWA 2D edge probe
- Cleaning agent for granite slab

For more information, please contact your EROWA dealer.

Product order numbers for EROWA PreSet 2D

without C-axis	
ER-057208	PreSet 2D UnoSet
ER-057209	PreSet 2D PalletSet W
ER-057210	PreSet 2D UPC / ITS Chuck 100 P
ER-057211	PreSet 2D ITS Compact Combi
ER-057212	PreSet 2D ProductionChuck 210
with C-axis	
ER-057213	PreSet 2D+C ITS Chuck 100
ER-057214	PreSet 2D+C ITS Compact Combi
ER-147394	PreSet 2D+C table-top version

EROWA PreSet 2D

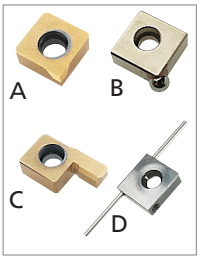
Options and accessories



EROWA 2D edge probe ER-057471
Precise probing of sharp edges, angles, diameters and lengths.



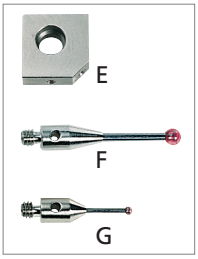
Mini PC incl. monitor ER-147724
Integrated solution for direct data transfer to the control system or image transfer from camera systems.



Probe insert
A ER-008623
B ER-008562
C ER-008831
D ER-008628
for 2D edge probe.



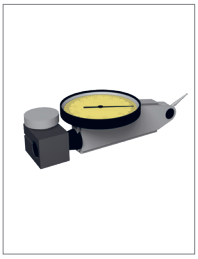
Microscope ER-008756
To view profiles, indentations and boreholes, with a magnifying factor of 30.



3xM2 probe insert E ER-009899
ø 2 mm F ER-003350
ø 1 mm G ER-003358
for 2D edge probe.



Cold light ER-095529
for the microscope: for optimal light on the area to be magnified.



Lever gauge ER-059439
Analogue gauge with a diameter of 38 mm and a resolution of 0.002 mm.

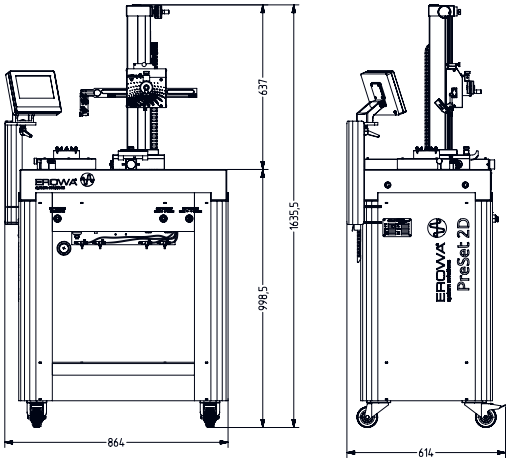


Software for EROWA PreSet 2D
- EROWA EMC
- EROWA QuickLink
- EROWA JMS® Pro Organization
For data entry, conversion to machine-specific formats, and data transfer from the EROWA PreSet 2D station to a machine control

PreSet 2D

Technical data

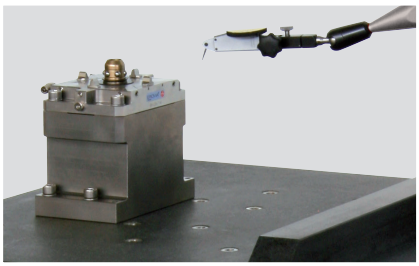
	PreSet 2D
X-axis travel	240 mm
Y-axis travel	320 mm
Z-axis travel	335 mm
Evaluation unit	Heidenhain GAGE-CHEK 2000 with EROWA preset macros
Interface	USB/Ethernet for data transfer to QuickLinkXT/JMS 4.0
Probe system	EROWA 2D edge probe
Space required	▭700 x 1000 mm
Compressed air supply	min. 6 bar dry



EROWA PreSet Basic

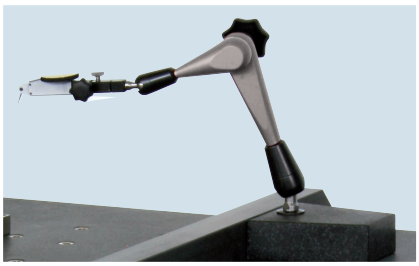
Setup and alignment

PreSet Basic is the ideal setting and presetting station for a quick check of the Z-plane or to align workpieces in the Y-axis.
Its stable trolley enables you to place it wherever it makes most sense in terms of work.



Choice of clamping system (PalletSet W shown). The presetting station has a modular design. Select the clamping system as required.





Using the dial indicator on a flexible base, align workpieces in the Z-plane or the Y-axis along the stop guide rail.



Measuring slab made of top quality natural stone according to DIN 876/00. Delivered with certificate and measurement record.

Technical data

PreSet Basic	UPC	PalletSet W	UnoSet
Operational weight (kg)	230	220	230
Max. load (kg)	100	25	10
Gauge gradation (mm)	0.002	0.002	0.002
Probe system	Analog dial gauge on flexible stand		
Space requirements (mm)	800 x 500 x 1000		



ER-057206	PreSet Basic UPC
Version	Presetting station with trolley, measuring top, UPC chuck and probe.
Load	100 kg.
Application	Setting and aligning of workpieces on UPC pallets.



ER-057205	PreSet Basic PalletSet W
Version	Presetting station with trolley, measuring top,PSW chuck and probe.
Load	25 kg.
Application	Setting and aligning of workpieces on PalletSet W holders.



ER-057204	PreSet Basic UnoSet
Version	Presetting station with trolley, measuring top, UnoSet chuck and probe.
Load	10 kg.
Application	Setting and aligning of workpieces on UnoSet holders.

PreSet Basic

Tailored to you

Whether as a standard solution or with a custom configuration, the PreSet set-up and presetting station can be individually adapted to your requirements. Please contact us for a consultation.





EROWA CMM Qi / PreSet 3D

Basic equipment

Measuring stations are equipped with EROWA tooling systems according to requirements. Some of these tooling systems can be mounted on one and the same table in combination.



ER-141438	MTS Chuck S-P/A 3D
Model	MTS single mounting chuck for CMM Qi/PreSet 3D.
Fastening	With clamping ring directly in prepared hole pattern.
Application	For accommodating MTS pallets ø 148 P.
Combination	MTS Chuck 3D can be combined with one of the following systems: FrameSet (only for 3D CNC), PalletSet W, UnoSet, ITS Compact CombiChuck, PowerChuck P.



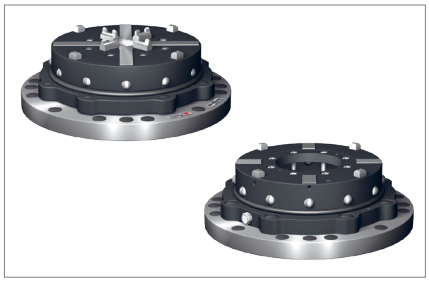
ER-118757 ER-101326	MTS Base plate 360 x 360 P/A 3D MTS 2.0 Base plate 360 x 360 P/A 3D
Model	MTS/MTS 2.0 base plate 360 x 360 mm with set-up distance 200 mm, for CMM Qi/PreSet 3D.
Fastening	With mounting accessories directly in prepared hole pattern.
Application	For accommodating MTS 2-fold and 4-fold pallets.



ER-118758 ER-101327	MTS Base plate 410 x 410 P/A 3D MTS 2.0 Base plate 410 x 410 P/A 3D
Model	MTS/MTS 2.0 base plate 410 x 410 mm with set-up distance 250 mm, for CMM Qi/PreSet 3D.
Fastening	With mounting accessories directly in prepared hole pattern.
Application	For accommodating MTS 2-fold and 4-fold pallets.



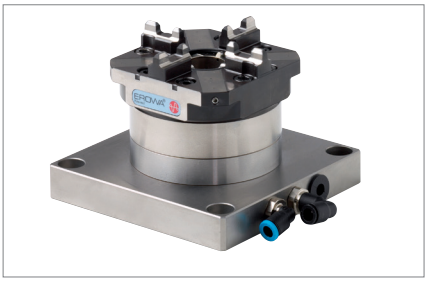
ER-076397 ER-076398	UPC Chuck with ITS Chuck 100 P 3D UPC Chuck 3D
Version	UPC chuck CMM Qi / PreSet 3D.
To be fitted	Directly in the existing hole grid.
Application	To accommodate UPC pallets. Also in version with ITS Chuck 100 P: pallets with MS-, G- and P-centering, as well as ITS holders 50, C and ø 72.
Combination	UPC can be set up in combination with one of the following systems: FrameSet (only on 3D CNC), PalletSet W, UnoSet.



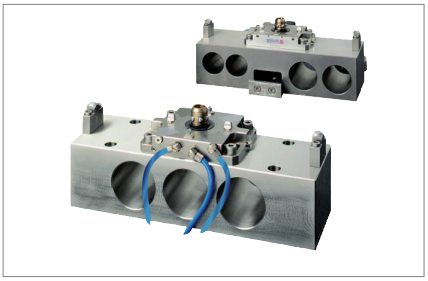
ER-035529 ER-035530	ProductionChuck 210 3D ProductionChuck 210 Combi 3D
Version	ProductionChuck 210 with base plate for CMM Qi / PreSet 3D.
To be fitted	With fitting accessories directly in the existing hole grid.
Application	To accommodate pallets PC 210. Also in combined version: pallets with MS-, G- and P-centering, as well as ITS holders 50, C and ø 72.
Combination	PC 210 can be set up in combination with one of the following systems: PalletSet W, UnoSet.



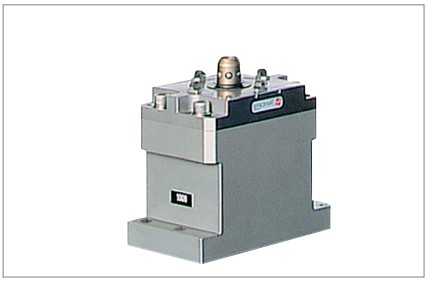
ER-029434	PowerChuck P 158 x 280 3D
Model:	PowerChuck P with base plate for CMM Qi/PreSet 3D.
Fastening:	Directly in prepared hole pattern.
Application:	For accommodating ITS holders 50, C and ø 72 as well as pallets with MS, G and P centering.
Combination	PowerChuck can be combined with one of the following systems: FrameSet (only on 3D CNC), PalletSet W, UnoSet, MTS Chuck.



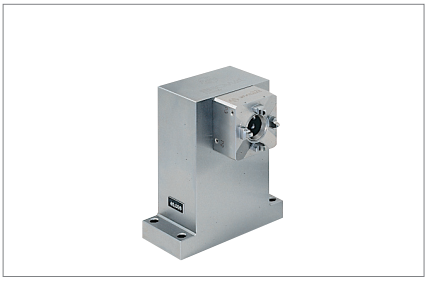
ER-025060 ER-077292	ITS Compact CombiChuck 3D ITS Chuck 100 P 3D
Model:	ITS chuck with base plate for CMM Qi/PreSet 3D.
Application:	For accommodating ITS holders 50, C and ø 72 as well as pallets with MS and G centering. ER-025060: Additionally for Compact holder. ER-077292: Additionally for pallets with P centering.
Combination	ITS Compact CombiChuck can be combined with one of the following systems: FrameSet (only on 3D CNC), PalletSet W, UnoSet, MTS Chuck.



ER-046080	FrameSet Base 3D CNC
Model:	Flat chuck on carrier plate for PreSet 3D CNC (not suitable for PreSet 3D MAN).
Fastening	With mounting accessories directly in prepared hole pattern.
Application	For accommodating FrameSet clamping frames.
Combination	FrameSet can be combined with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck.



ER-022683	PalletSet W Base 3D
Model:	Flat chuck on support for CMM Qi/PreSet 3D.
Fastening	Directly in prepared hole pattern.
Application	For accommodating all PalletSet W holders.
Combination	PalletSet W can be combined with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck, PC 210.



ER-012580	UnoSet Kit Support 3D
Model:	Chuck 50 RSA with support for CMM Qi/PreSet 3D.
Fastening	Directly in prepared hole pattern.
Application:	For accommodating all UnoSet holders as well as ITS holder 50, C and ø 72.
Combination	UnoSet can be combined with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck, PC 210.

EROWA PreSet

Measuring tools

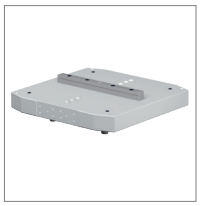
Different useful components make it easy and convenient to have everything under control. For questions on measuring devices and options for EROWA measuring stations, please contact your EROWA agent.



MTS alignment pallet 200 ER-130135
MTS alignment pallet 250 ER-130136

Alignment of the angle position and recording of the Z-values of MTS basic plates 2-fold with set-up distance 200 mm/250 mm.

Alignment distance 312 mm



MTS alignment pallet 200 ER-130137
MTS alignment pallet 250 ER-130138

Alignment of the angle position and recording of the Z-values of MTS basic plates 4-fold with set-up distance 200 mm/250 mm.

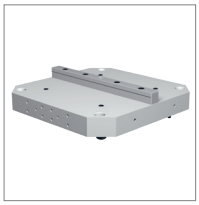
Pallet 398 x 398 mm
Alignment distance 312 mm



MTS alignment pallet ø 148 P ER-116633

Alignment of the angle position and determination of the center and of the Z-values of MTS single chucks.

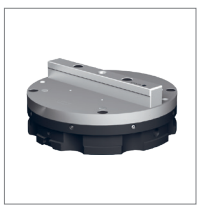
Alignment distance 130 mm



UPC alignment pallet ER-048377

Alignment of angle position and determination of the center and Z-values of UPC chucks.

Pallet 320 x 320 mm
Alignment distance 312 mm



Alignment pallet RN PC 210 ER-116634

Alignment of angle position and determination of the center and Z-values of PC 210 chucks.

Alignment distance 198 mm



Alignment pallet ø 115 MS ER-115699

Alignment of the angle position and determination of the center of ITS chucks, PowerChuck P and PC 210 Combi chucks.

Alignment distance 110 mm



Alignment pallet ø 148 P ER-138950

Alignment of the angle position and determination of the center and of the Z-values of ITS chucks 100 P, PowerChuck P and PC 210 Combi chucks.

Alignment distance 130 mm



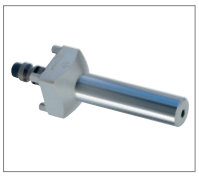
Alignment pallet PalletSet W ER-055158

Alignment of the angle position and determination of the center of flat chucks.



Gaging pin ER-008617

Alignment of the radial, axial and angle position of ITS chucks.



Checking pin 50 ER-010723

Alignment of the radial, axial and angle position of ITS chucks.



Compact checking pin ER-017541

Alignment of the radial, axial and angle position of Compact chucks.

EROWA PreSet
Measuring tools



Master gage ER-007796
For checking the Z=0 plant on the PreSet Basic WEDM presetting stations.



Reference pin UnoSet ER-012727
For determining reference dimensions on horizontal chucks.
Bore ø 8 mm

EROWA PreSet
Accessories



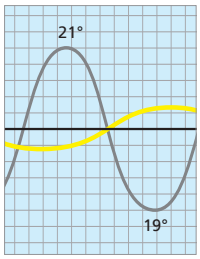
Evaluation station ER-007805
For running the EROWA measurement and presetting software. Consists of a computer with operating system, flat screen, keyboard, printer and mouse.



Wireless Joystick CMM Qi ER-067640
Wireless Joystick CMM Qi ER-103113
«Upgrade» to wireless operating panel. Wireless operating panel including receiver. Machine control by joystick, control of the measurement software on the PC as well as CNC travel speed override.



EWIS™ identification system ER-035990
Hardware module.
Read/write head and evaluation unit.



Automatic temperature compensation CMM Qi ER-067638
For automatic temperature measurement and logical compensation.
Version with three sensors for the axes and one sensor for the workpiece.



Automation preparation CMM Qi including barrier ER-077882
Automation interface for robotic loading of the CMM Qi.



Software maintenance agreement ER-054645
Hardware maintenance agreement ER-064410
The maintenance agreement ensures that the CMM Qi is checked at regular intervals.



Cleaning agent ER-001516
For granite plate.



Air filter unit for air conditioning CMM Qi ER-067636
Supplies the air bearings of the CMM Qi measuring station with high-quality compressed air.

EROWA PreSoft measuring software

Easy presetting and measuring

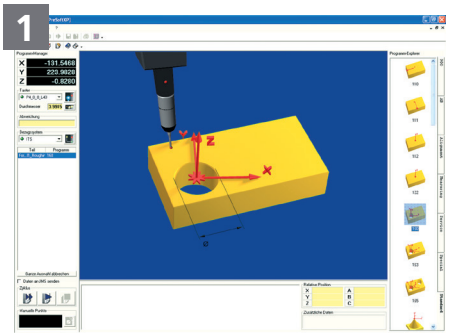
Presetting results in more productive time on the machine tools. However, presetting also has to be as efficient as possible in itself.

The PreSoft measuring software meets this requirement. A brief introduction is enough, and anyone can efficiently preset electrodes and workpieces.

THE FACTS

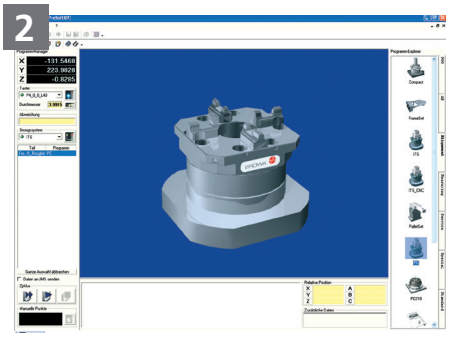
- Easy operation with a logical structure
- User guidance with animated graphics
- Integrated into the EROWA JMS 4.0 process control system
- Program the required macros and measuring programs yourself

1



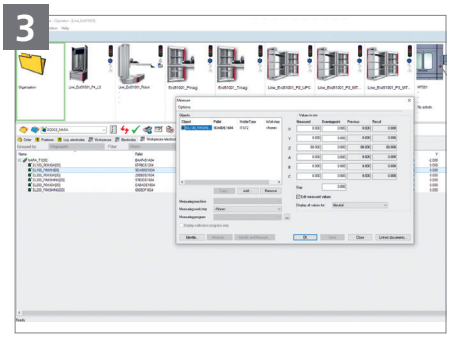
01 | The graphical user interface allows any user to carry out correct presetting within a short time. The processes can be learned intuitively. Knowledge of 3D measurements is not required.

2



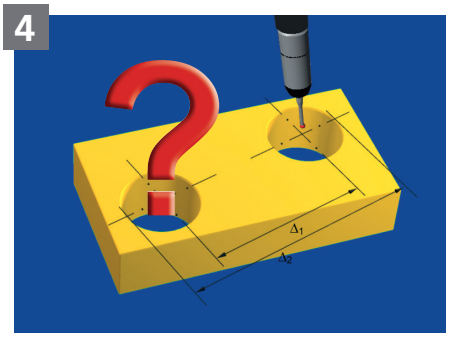
02 | The reference positions are checked. This ensures that the offsets are always assigned the correct reference point.

3



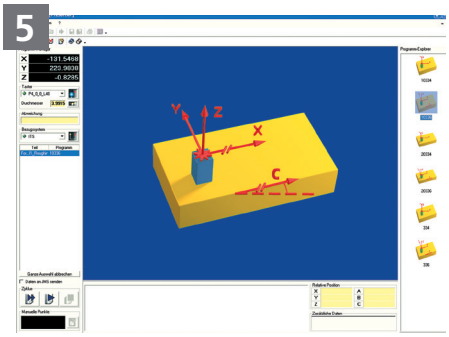
03 | Automatic assignment of offset values to the electrode and workpiece ID numbers provides high process reliability.

4



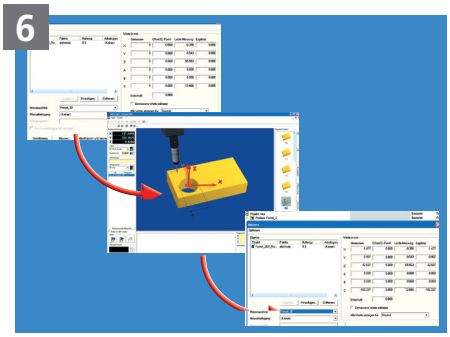
04 | Diameters or sections can be checked quickly using simple measuring macros.

5



05 | Create your own macros for fast and reliable measurements.
In addition, over 100 frequently used measurement sequences are already predefined as macros and can be selected as required.

6



06 | PreSoft is seamlessly integrated into JMS 4.0. The presetting function is accessed with a mouse click. The determined offset data are automatically transferred from the measuring station into the JSM 4.0.

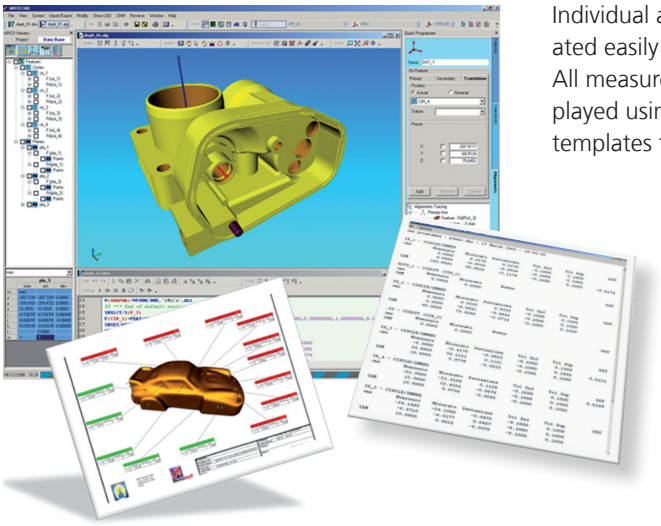
ARCO-CAD measuring software

Import – measure – compare – log

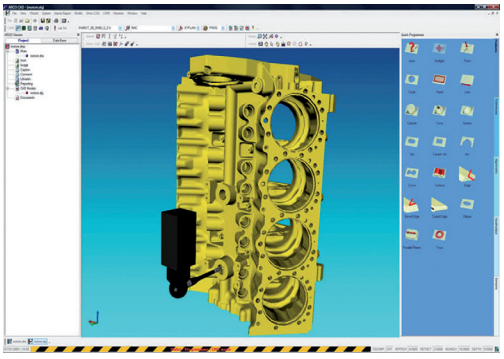
ARCO CAD includes all functions for importing CAD models and for using these to create measuring programs or to compare measurements directly against CAD nominal values. This allows real quality measurements with complete data logging after appropriate training.

THE FACTS

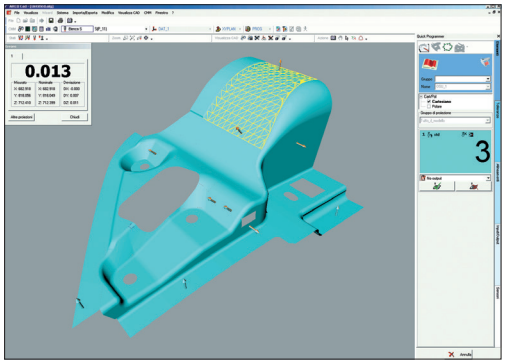
- Complete software for quality control
- Data import: Catia, UG, Pro Eng, Solid Works, VDA, STEP
- Definition of measuring points directly in the CAD file using "teach and learn"



Individual and complex reports can be generated easily by using the ARCO CAD Reporter. All measured features can be graphically displayed using CAD, diagrams or tables. Individual templates facilitate the creation of reports.



User guidance is based on ARCO CAD using animated symbols. Any user can navigate the program intuitively and safely thanks to the pictorial representation of the measurement tasks.



ARCO CAD allows the integration of CAD data. The areas to be measured are selected and calculated on the basis of the imported data. This feature is particularly suitable for measuring complex 3D shapes.

EROWA PreSet Configurator measuring software

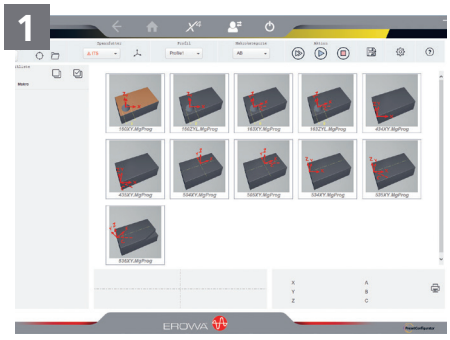
Presetting made easy

Presetting results in more productive time on the machine tools.

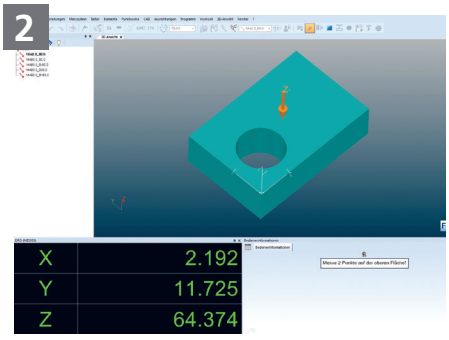
The EROWA PreSet Configurator is intuitive to use. The complex measurement technology is hidden underneath the intuitive user interface. Even without knowledge of 3D metrology, presetting is easy for the users.

THE FACTS

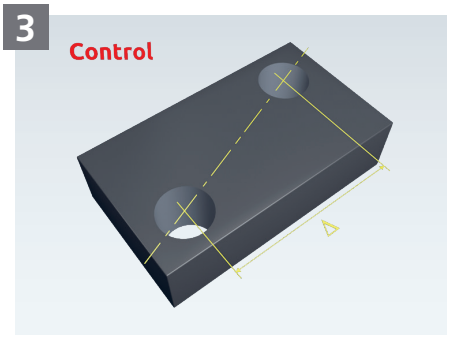
- Easy operation with a logical structure
- User guidance with animated graphics
- Integrated into the EROWA JMS 4.0 process control system
- Program the required macros and measuring programs yourself
- Innovative software solution with focus on the metrological challenges of the future



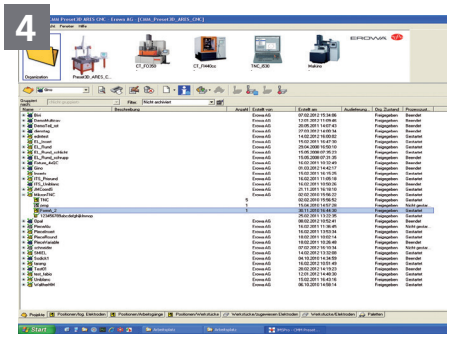
01 | The clearly structured display and the graphical user guidance allow any user to make the correct presets within a very short time.



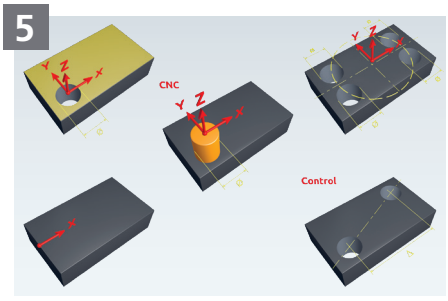
02 | The animated measuring points guide the operator during the execution of macros.



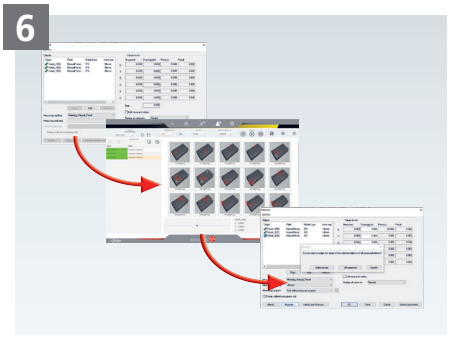
03 | Fast target/actual comparisons of diameters or distances are processed using simple measurement macros.



04 | Automatic assignment of offset values to the ID numbers of the electrodes or workpieces provides a high level of process reliability.



05 | Create your own macros for fast and reliable measurements.
In addition, frequently used measurement sequences are already predefined as macros and can be selected as required.



06 | The EROWA PreSet Configurator is integrated into the EROWA JMS 4.0 process control systems. Presetting functions are accessed with a mouse click. The measured offset data are automatically transferred into the system.

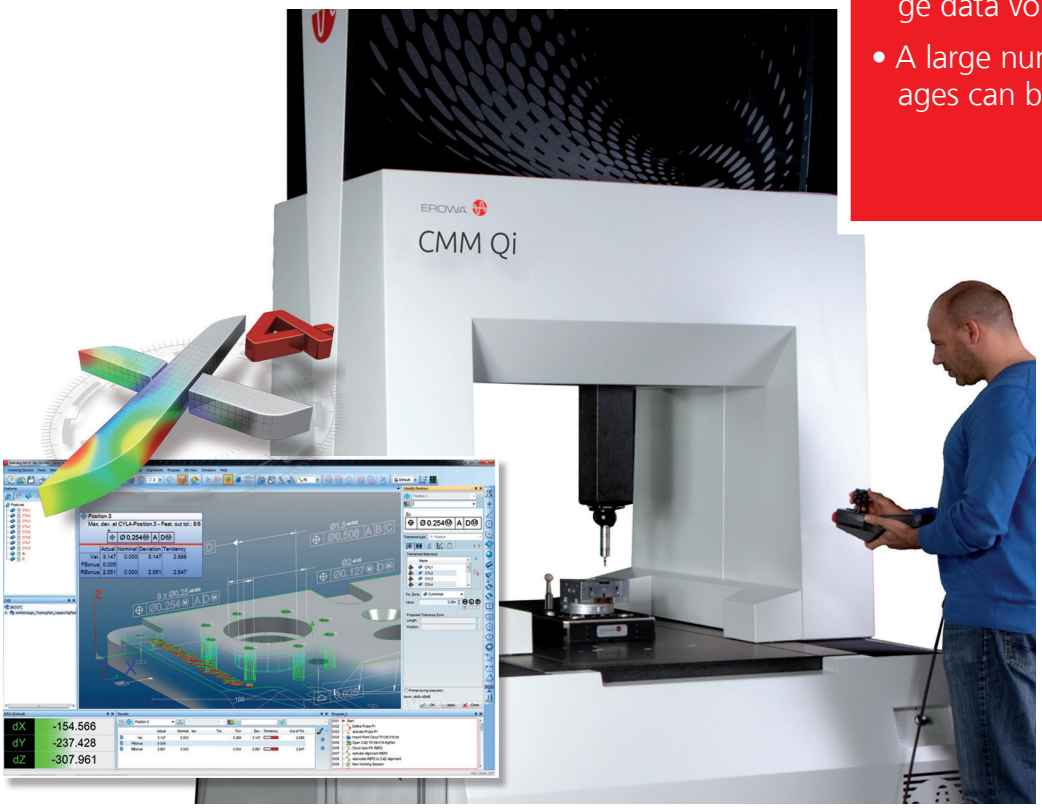
Metrolog X4 measuring software

High-end software for the highest demands

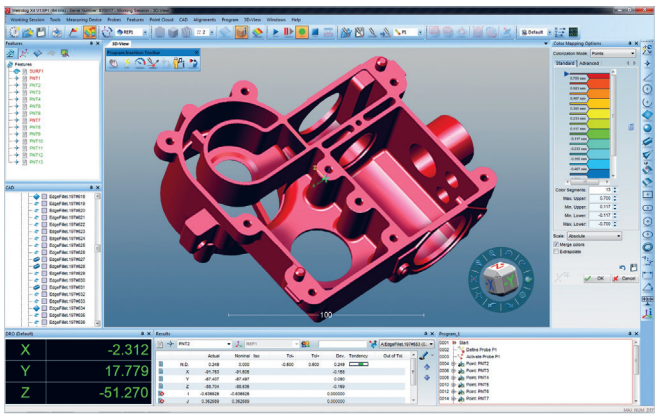
The Metrolog X4 3D measuring software offers progressive technology and the know-how for even faster and more efficient measurements.
Rely on an optimized user interface for outstanding ease of use and high performance, even with large amounts of data.

THE FACTS

- Optimized user interface for excellent ease of use
- Increase in efficiency through utmost flexibility and functionality
- Unrivaled compatibility with tactile and optical measurement systems
- High performance even with large data volumes
- A large number of different languages can be selected directly



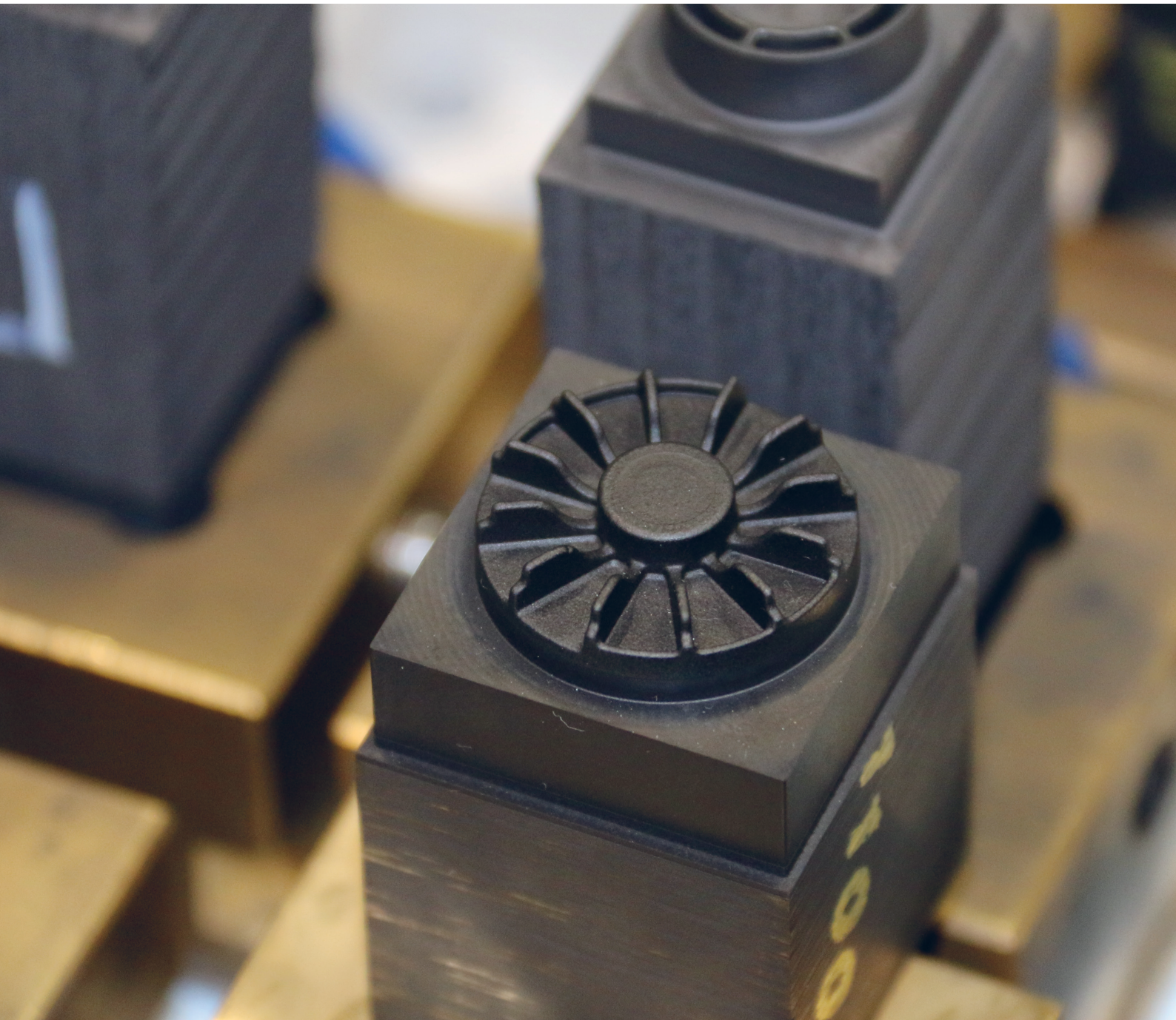
- Easy to use graphical user interface, fully customizable to user requirements, in accordance with the specific machine types and measurement methods.
- Wizard for manual measurements.
- Automatic view adjustment during capturing.
- Customizable information windows.

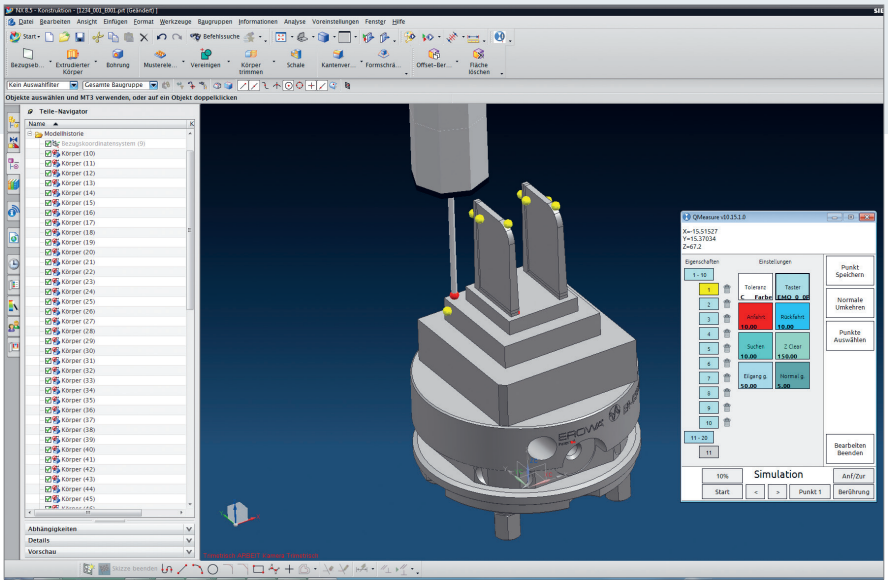


EROWA Q-Measure

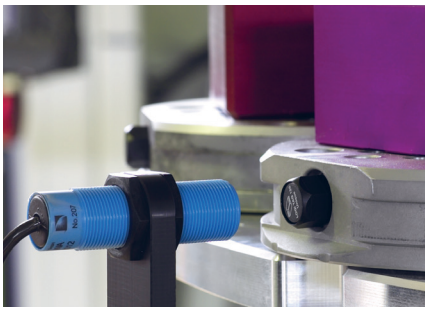
Quality measurement out of the CAD system

You can determine the important features for quality measurement quickly and easily in your usual CAD system. You specify the measuring points and tolerances with Q-Measure. The electrode is identified on the measuring station, the program is generated automatically and the measuring process is started.

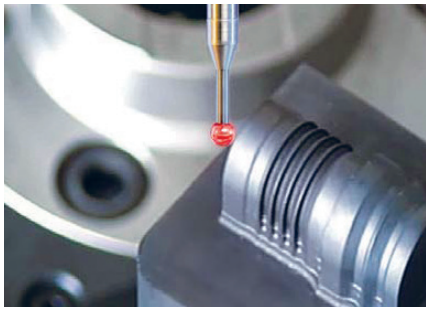




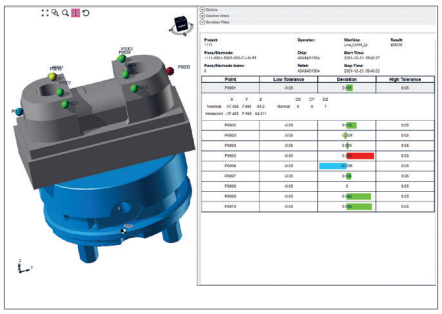
Planning
Workpiece and electrode design. Interactive definition of measuring points and tolerances directly in your existing CAD system.



Data transfer
Full integration into the JMS 4.0 ML process control system and consequently very easy data transfer and user-friendly data handling ensured.



Quality measurement
To ensure that no confusion occurs during the transfer to the machine control, the memory positions are defined identically.



Report
The software automatically generates interactive 3D measurement reports for easy data evaluation and stores these for the corresponding workpiece to be measured. This ensures guaranteed traceability.

Software

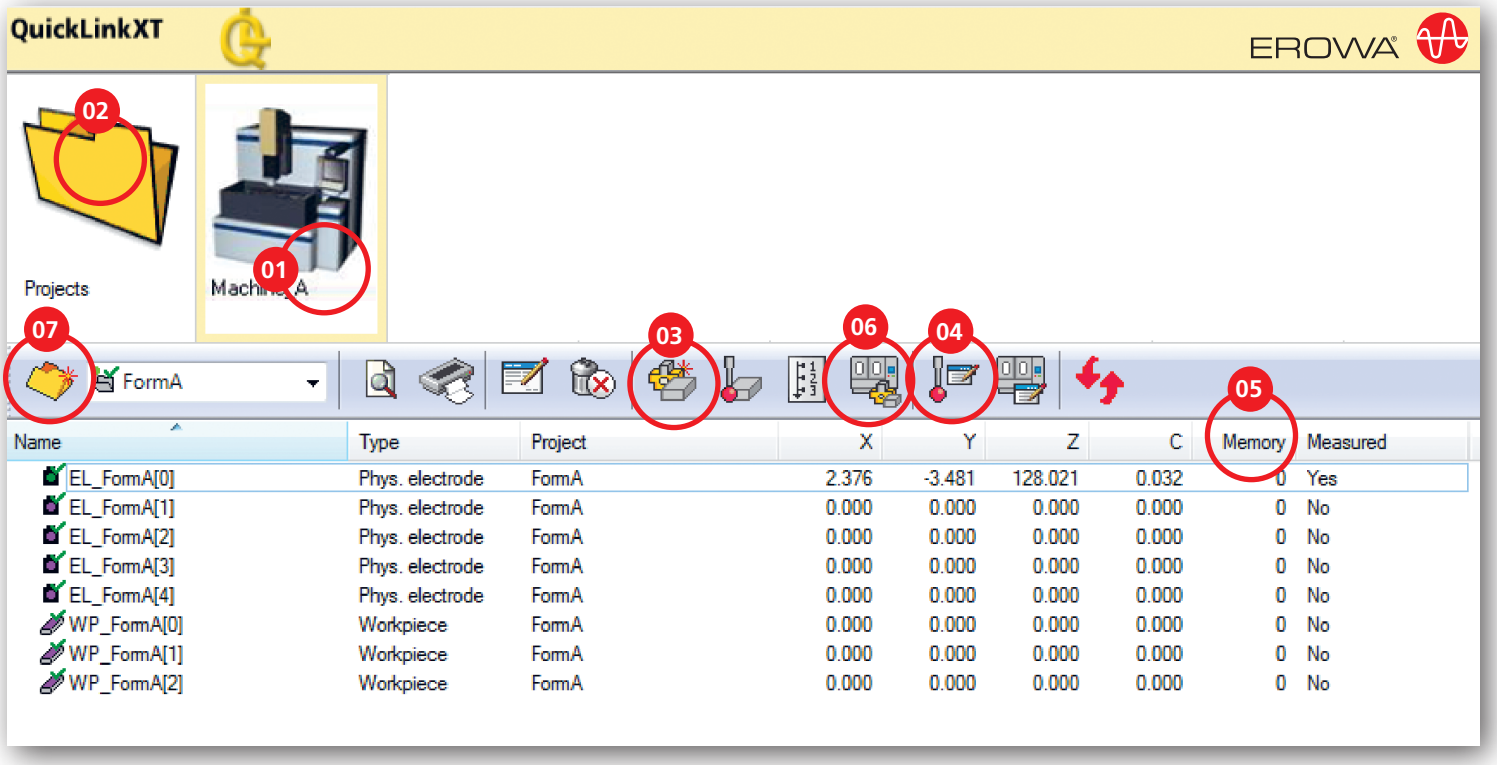
FACTS

- Interactive definition of measuring points and tolerances
- Automatic electrode identification
- Automatic generation of measuring programs
- Release or blocking after the measuring result
- Documentation with a 3D measurement report

EROWA QuickLink^{XT}

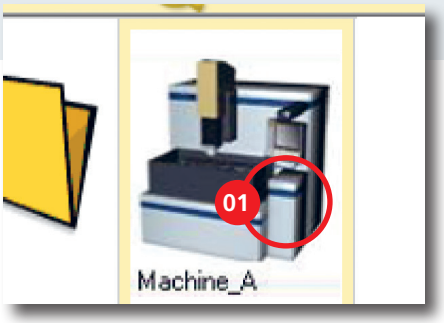
Simple data transfer

QuickLinkXT is a simple program for the data transfer from the EROWA PreSet 2D presetting station to a machine control unit. Set up a PC, insert a USB data carrier (USB stick), install the software, plug in the connecting cable between PC and display, and the hassle-free data transfer to the machine or the programming station is ready.

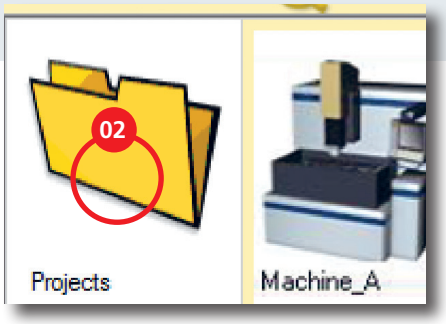


Presetting data of electrodes and workpieces are transferred to the machine with ease and speed. The X-, Y-, Z- and C-values are determined on the PreSet 2D presetting station and transmitted to QuickLinkXT at the push of a button.

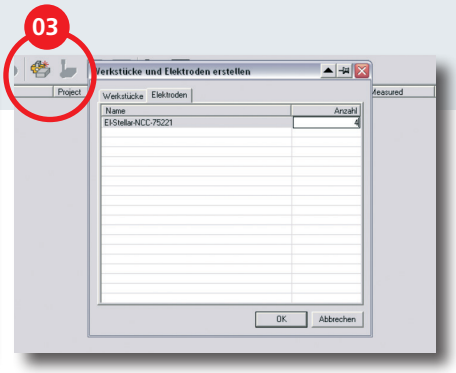
All the data of one job are converted into the specific machine format.



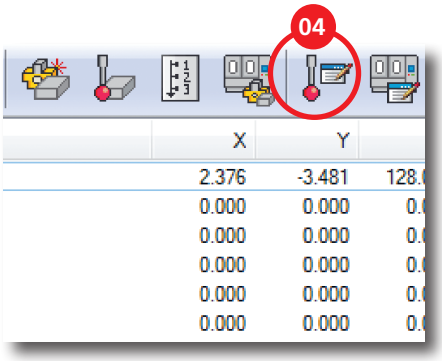
1 I Active project
The content of the active project is displayed in the machine view. From here, this can be created, modified and output directly.



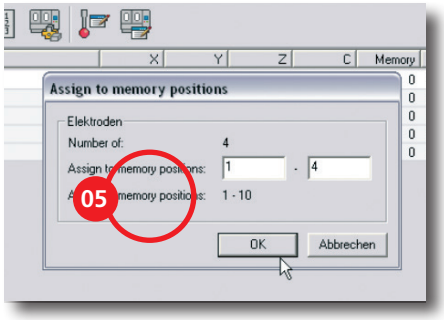
2 I Stored projects
The projects are stored to document the working steps. This information can be called up and printed out at any time.



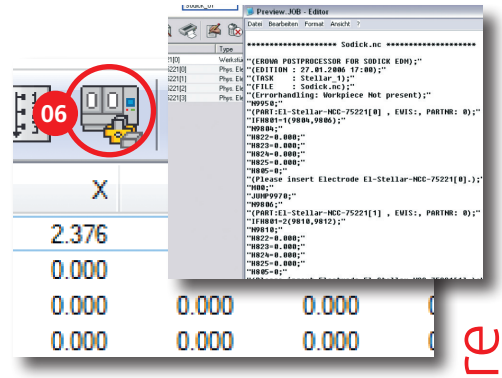
3 I Number of electrodes and workpieces
At the beginning, the number of electrodes or workpieces to be measured is defined. This will guarantee an overview of the working progress.



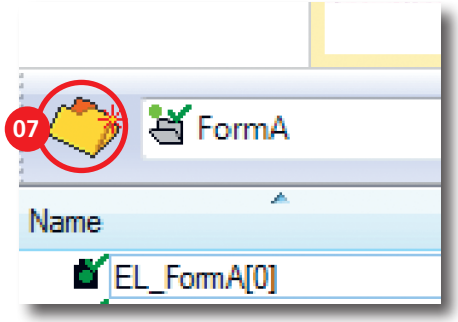
4 I Receive measured data
QuickLink^{XT} is ready to take over the data from the presetting station. The transmission command is triggered in the control unit of the presetting station.



5 I Allocate memory space
The memory positions are defined at once in order to avoid any confusion during the transfer to the machine control unit.



6 I Data export
All the selected measured data are converted into the specific machine format at the push of a button. They can be stored on a diskette or in a network directory.
Before the export, you can check whether the result comes up to expectations.



7 I New project
Every new job is given a designation. In this way, it can easily be found again. Even at this early stage, the job has been allocated to a machine.

FACTS

- Easy and quick program
- Transfers data automatically into machine specific format

Organization with EROWA JMS 4.0

Simple presetting and measuring

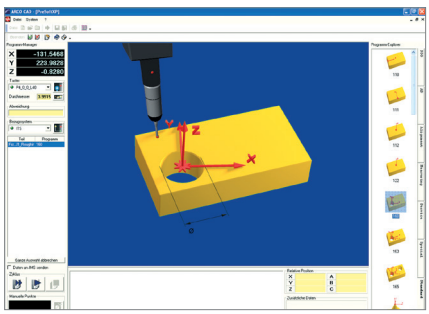
In combination with the EROWA JMS 4.0 process control systems, EROWA›s measuring and presetting stations can be integrated into the production process in a variety of extension stages.

From simple presetting to in-process checks and fully automated production quality monitoring, EROWA›s measuring and presetting stations accompany your productions from the perspective of quality assurance, thus making an essential contribution to the minimization of reject rates and quality assurance by means of process control.

Thanks to the modular principle, extensions can be carried out in small, manageable steps. In this way, your production is prepared for the challenges of the future in the best possible manner.

FACTS

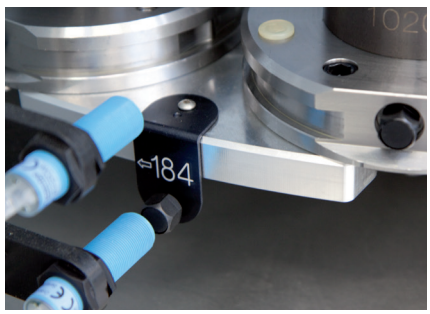
- Simple introduction of the EROWA Job Management System 4.0
- Software modules to meet any requirement
- PreSet software included
- Contains more than 100 presetting programs
- Quick changeover from presetting software to measuring software at the touch of a button
- Automated quality checks



EROWA PreSoft measuring software
The presetting software with automatic data import into JMS 4.0.
The simple and logically structured graphic operator guidance provides operators with comprehensive support.

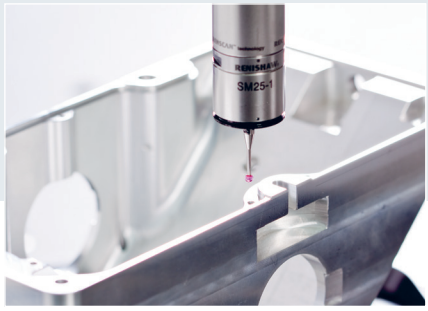


Manual identification
EWIS™ handheld reading devices are used for the unequivocal identification of electrode holders and workpiece carrier pallets on the presetting and measuring stations. With the modern transponder chips, each workpiece can thus be unequivocally identified at any time.



Automatic identification in the robot magazine
The EWIS™ Rapid identification system automatically provides an overview of the electrode holders and workpiece carrier pallets situated in the magazines. For this purpose, the handling facilities read the magazine content autonomously and transmit the data to the JMS 4.0.







Automatic quality checks
The function of the JMS 4.0 JobManager CMM software module is to match the right workpieces with the suitable measuring programs. The part to be measured is transferred to the measuring station either manually or by a robot.

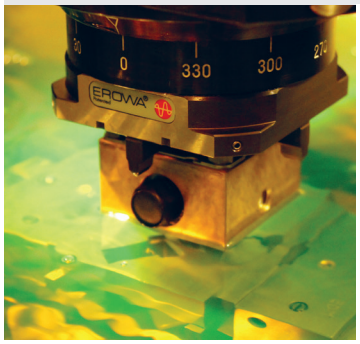
AutoQi package
The EROWA CMM Qi measuring station is equipped with an integrated EROWA handling facility. This results in an automated standalone measuring cell. Here, too, the JMS 4.0 JobManager CMM takes on complete control of the cell.

Depending on the type of production, the JMS 4.0 software provides you with suitable software modules for productive presetting and quality measurements.

JMS 4.0 CMM Preset Import EROWA 2D Integration of the time-tested electrode presetting station.
JMS 4.0 CMM Preset Import EROWA 3D Integration of the EROWA 3D measuring station.
JMS 4.0 CMM Preset Import Integration of other manufacturers' measuring stations.
JMS 4.0 JobManager CMM EROWA Integration of EROWA measuring stations to conduct automatic quality measurements.
JMS 4.0 JobManager CMM Integration of other manufacturers' measuring stations to conduct automatic quality measurements.
JMS 4.0 AutoQi Package Integration of the CMM Qi measuring station with integrated automation.

MoldLine JMS® 4.0

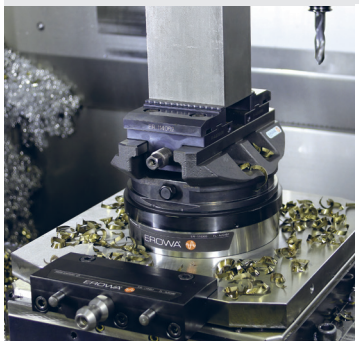
The process control system for complete individual solutions: flexible and scalable.



more information:
Weblink - JMS 4.0 MoldLine

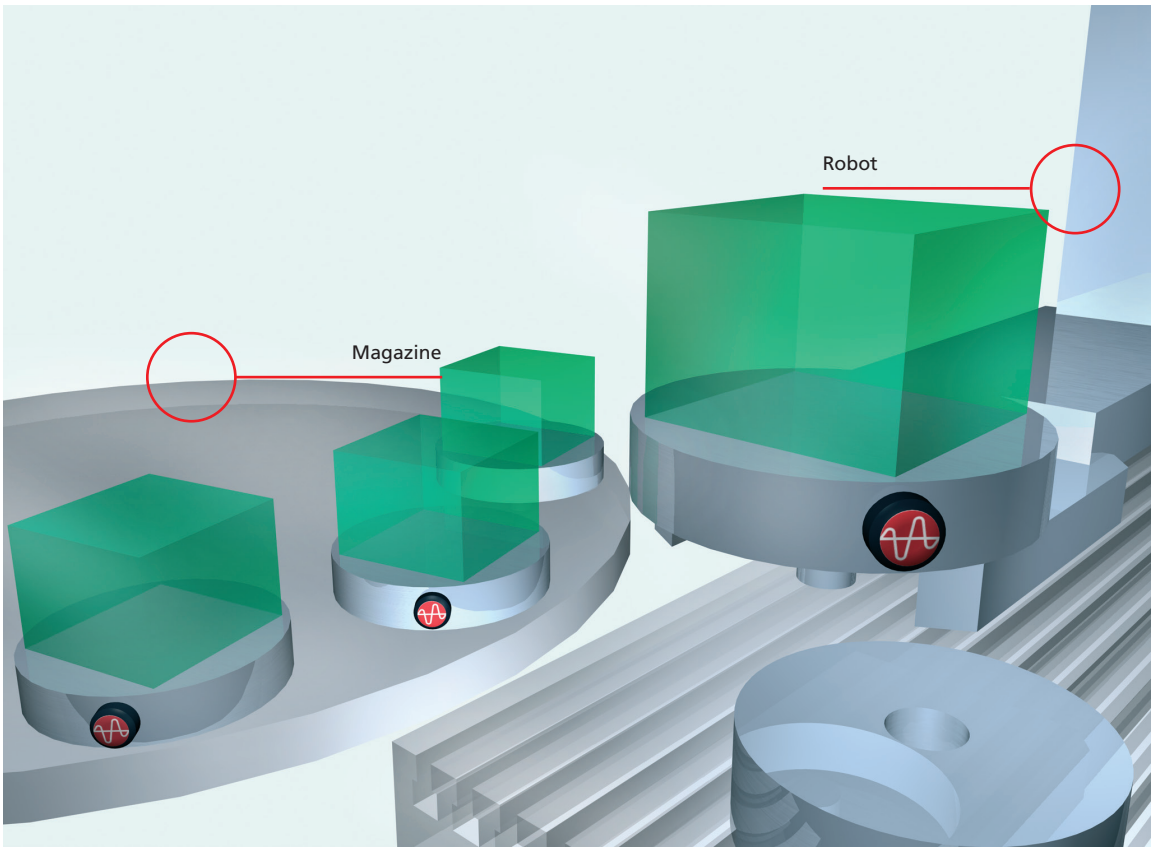
ProductionLine JMS® 4.0

The process control system for chip-cutting production: fast and reliable.



more information:
Weblink - JMS 4.0 ProductionLine

EROWA loading systems



Automation of machine tools. This relieves personnel of monotonous work, while at the same time creating a multiple capacity for the output of parts and for preparation. It also provides more space for your personnel's creativity.

For chip-removing processes

For EDM sinking

For WEDM

EROWA LOADING SYSTEMS



up to 120 kg



up to 250 kg



up to 800 kg

EROWA Robot Leonardo 360
EROWA Robot Easy 250 / 800 364



up to 80 kg



up to 80 kg

EROWA Robot Compact 80 372
EROWA Robot Multi 376



up to 150 kg



up to 250 kg



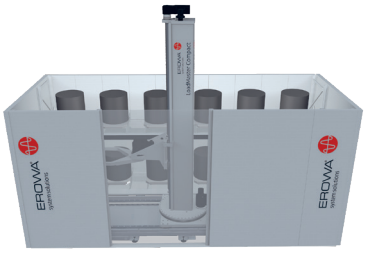
up to 500 kg

EROWA Dynamic 150 / 250 / 500 380



up to 800 kg

EROWA Robot Six 392



up to 4,000 kg

LoadMaster Compact by EROWA 396



up to 250 kg

EROWA Lift 400

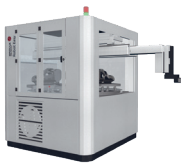


up to 250 kg

EROWA LiftGear 402

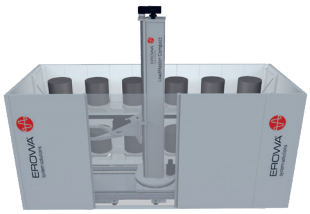
EROWA Automation

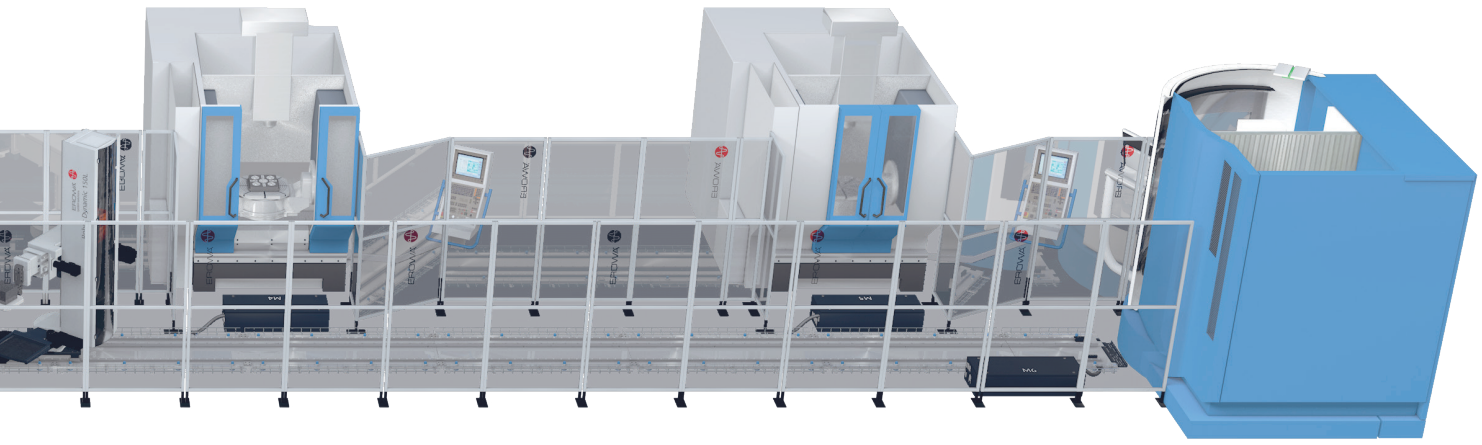
EROWA robots are available for every machining technology and in a great number of configurable variants. We provide simple devices for retrofitting to existing machines, as well as state-of-the-art linear automation which serves several machines through one single robot.

	Monobloc				
	ERC 80	**ERM 80**	**ERL 120**	**ERE 250**	**ERE 800**
					
Transfer weight (kg) of pallet, including work-piece	80	80	120	250	800
Maximum obstacle con-tour, workpiece, l×w×h (mm)	320 x 320 x 300 UPC	400 x 400 x 400 MTS 400	480 x 480 x 400 MTS 500	510 x 510 x 390* MTS 500	ø850 x 1000 MTS 600 x 800
Automatic gripper change	yes	yes	yes	no	yes
Minimum base surface, robot (mm); maximum height, robot (mm)	1,065 x 2,010 2,630	1,440 x 3,280 2,510	1,910 x 2,620 2,620/4,820	1,700 x 1,700 2,200	3,100 x 3,400 3,200
Maximum number of machines	2	2	2	1	1

*Standard data (extended obstacle contours possible on request)
**Standard data (more machines possible on request)



Standalone & linear			Linear		
ERD 250L	**ERD 500L**	**ER Six**	**ERD 150L**	**LoadMaster**	
					
250	500	30 - 800	150	4,000	Transfer weight (kg) of pallet, including work-piece
800 x 800 x 500 MTS 600 x 800	800 x 800 x 500 MTS 600 x 800	Customized	400 x 400 x 400	ø1,400 x 1,000*	Maximum obstacle con-tour, workpiece, l×w×h (mm)
yes	yes	yes	yes	yes	Automatic gripper change
2,600 x 3,700 3,450	2,600 x 3,700 3,450	Customized	2,750 x 3,400 2,610	6,200 x 3,200 5,000	Minimum base surface, robot (mm); maximum height, robot (mm)
8	12	12	12	12**	Maximum number of machines

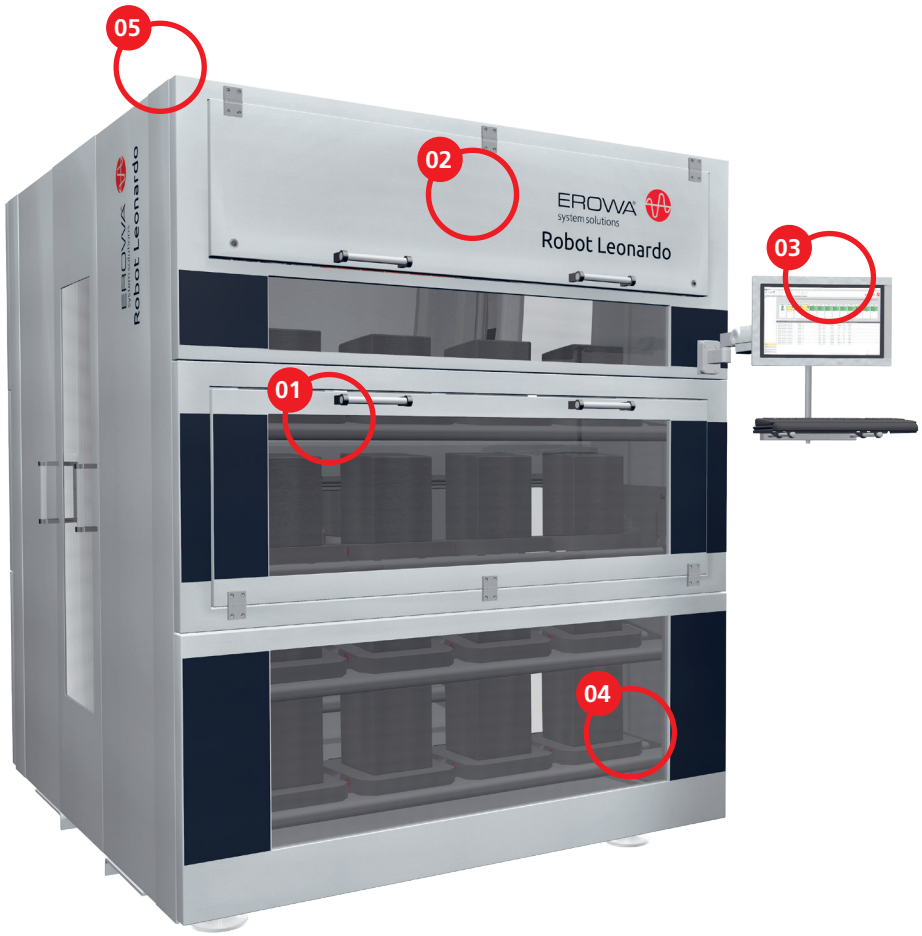


EROWA Robot Leonardo

Uncompromisingly productive

The autonomous system has many advantages. Up to 32 pallet positions for UPC 320 are available on only a 2x2 meters floor space. Pallets do not leave the system because setups take place on the integrated loading station.

more information:
Weblink - Robot Leonardo



01 | Integrated loading station

02 | Access to the control system

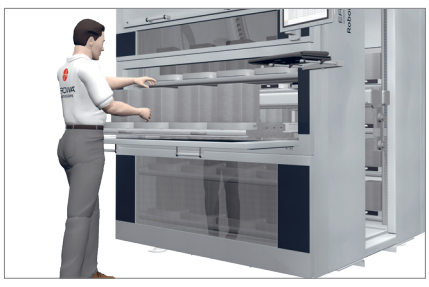
03 | Control panel and process control system

04 | Configurable magazine

05 | Setup point for version ERL high

06 | Machine loading from the left

07 | Machine loading from the right



The setup and preparation work is done directly on the robot.



On the turntable of the loading station, the workpieces are freely accessible from all sides.



Input and output of the pallets are detected by a light barrier.



The following *number of positions are available in the magazine for these clamping systems:

Cutting
ITS 115/148
48/96 positions



Cutting
PC 210
40/80 positions



Cutting
UPC
32/64 positions



Cutting
MTS 400
24/48 positions



Cutting
MTS 500
16/32 positions



* Standard / High Version

** MTS 500 possible; maximum workpiece/obstacle contour 480×480mm must not exceed beyond the 45° corners of the pallet.

Technical data

EROWA Robot Leonardo	
Transfer weight	**120 kg**
Reach in machine	Stroke 1,565 mm
System height	2,420 mm
System height, High Version	4,860 mm
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

FACTS

- Scalable concept
- Integrated loading station
- Excellent space/pallet ratio
- RFID pallet recognition
- Monitored pallet input/output
- Two-machine operation

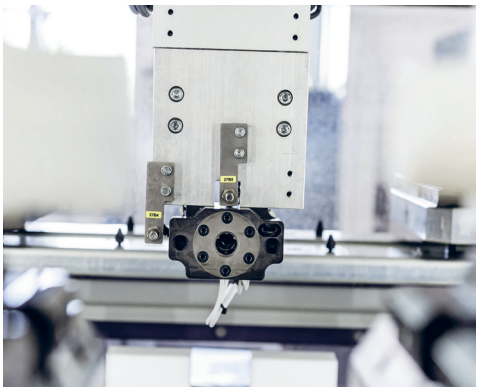
EROWA Robot Leonardo

Sophisticated functionalities and options

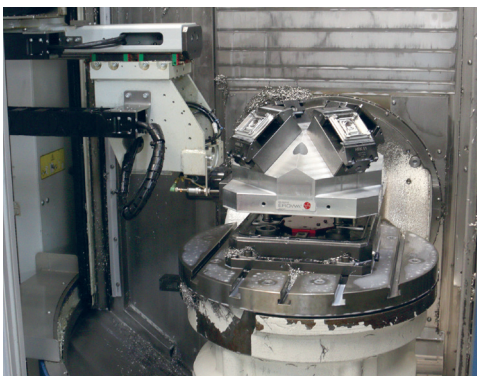


There is usually still space at the top of the factory floor.

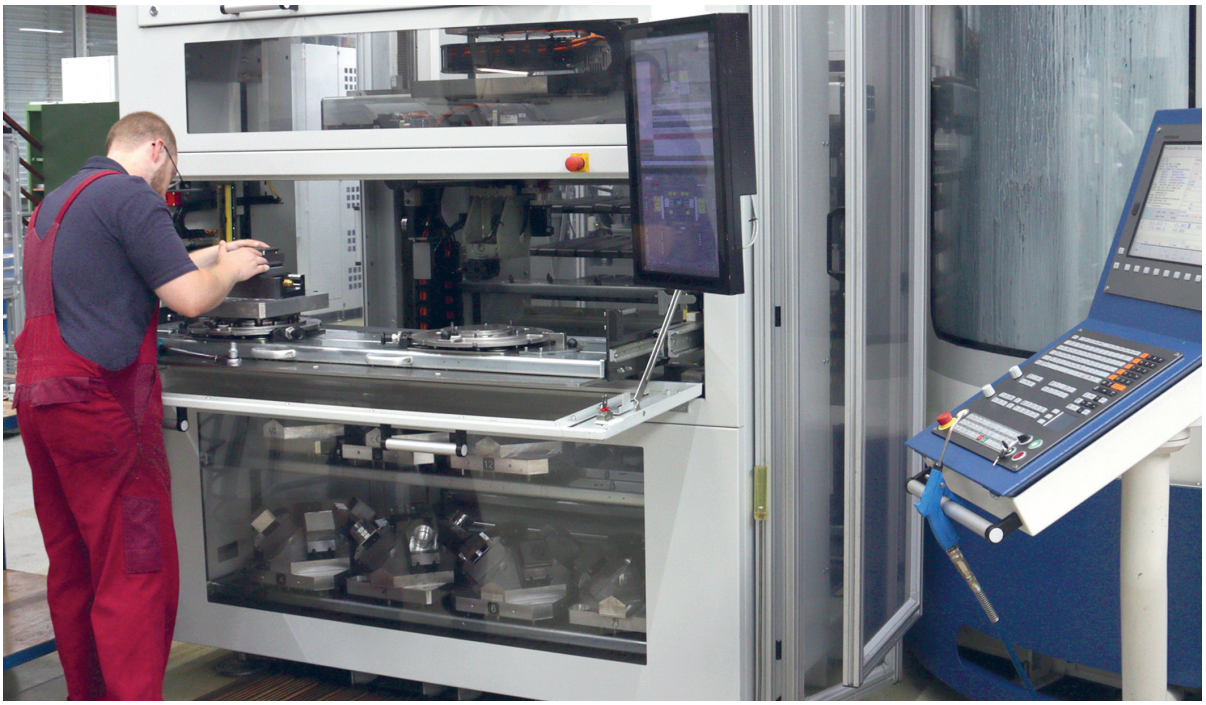
It is important to take advantage of this low-cost space. Leonardo "high" version.



Strong gripper coupling for changing when using different pallet sizes.



Pallets weighing up to 120 kg are reliably carried.



A setup station that saves space and still makes ergonomic sense.



There is enough space in the magazine to run a complete night shift autonomously.



more information: Weblink

The maintenance agreement. Order right away when you buy.



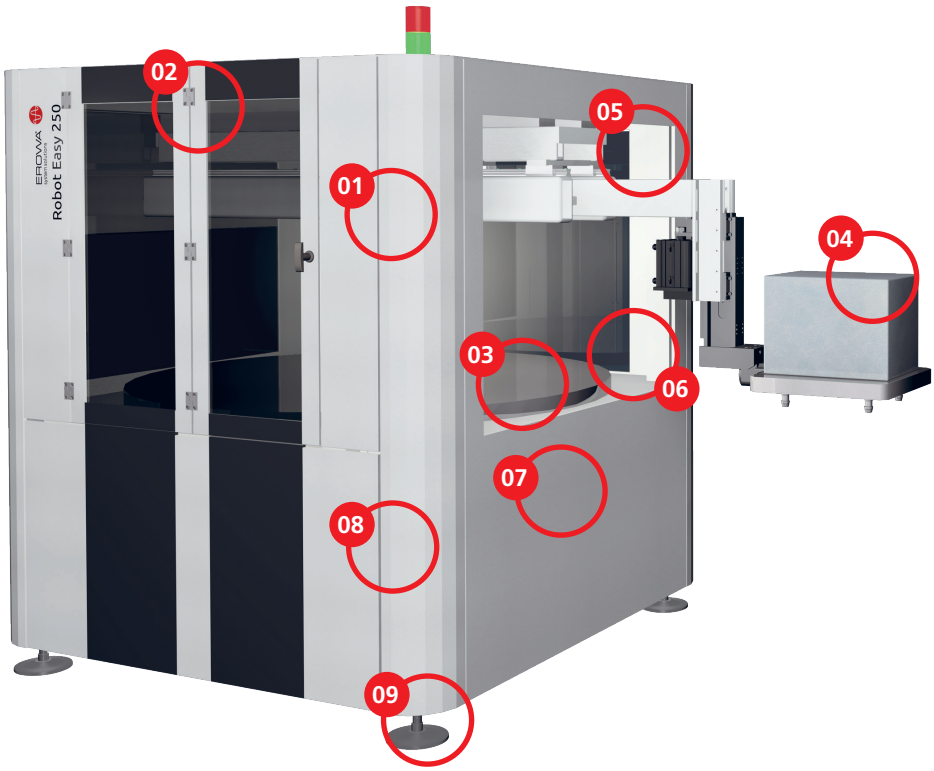
EROWA Robot Leonardo, an asset for any production task.

EROWA Robot Easy

Simply efficient

Effective automation starts very simply. From installation through possible retrofitting to an existing machine to operation. Amortization within one year is a reality.

more information:
Weblink - Robot Easy



01 | State-of-the-art operator guidance with a logical structure.

02 | Easy magazine loading accessible for crane loading.

03 | Up to 60 magazine positions on one level.

04 | Max. 300 kg transfer weight.

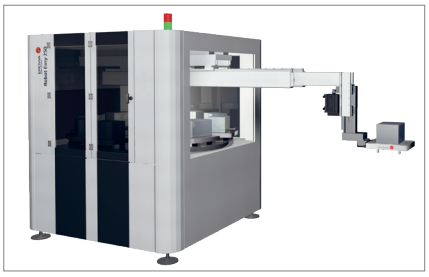
05 | Intervention depth ~1,600 mm.

06 | for large/overloaded pallets also with drip pans and controlled drainage.

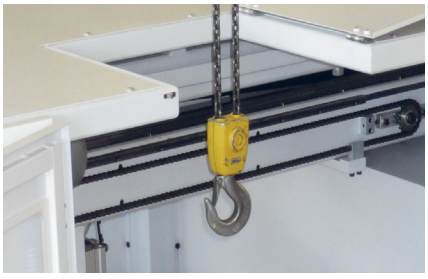
07 | Integrated control system.

08 | Service-friendly casing.

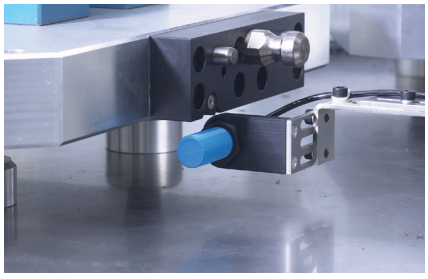
09 | Integrated height adjustment.



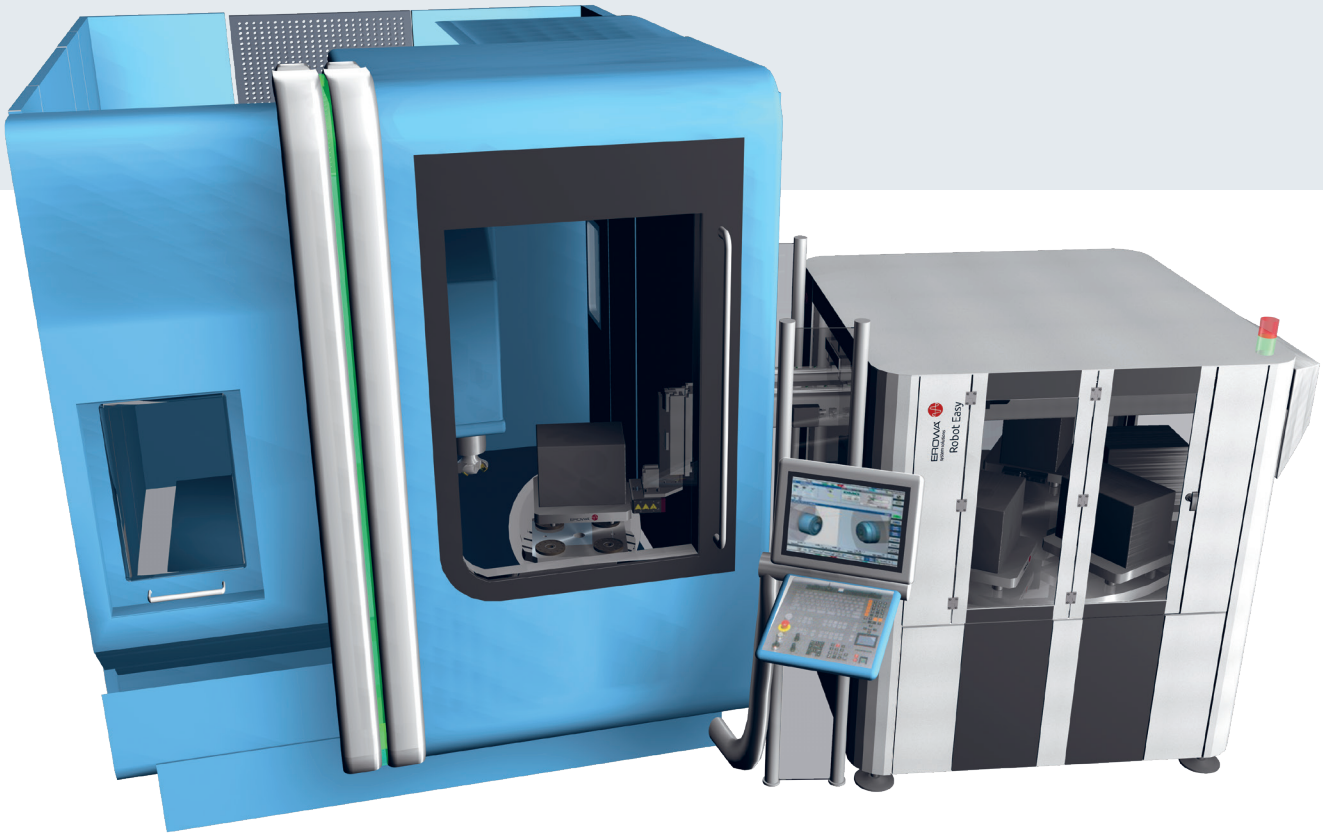
Long reach and high load capacity.



Convenient opening for magazine loading with an overhead crane.



Secure pallet recognition via RFID chip technology.



Specification based on maximum possible magazine positions per level.

WEDM

7 x frames PSW

15 x holders



Milling / EDM

12 x PC 210



Milling / EDM

10 x UPC



EDM / Milling

60 x ITS 50

60 Holder 72



EDM / Milling

24 x ITS 115/148



Milling

6 x MTS 400



Milling

4 x MTS 500



Technical data

EROWA Robot Easy	
Transfer weight	**250 kg (optionally 300 kg)**
Reach in machine	Stroke 1,600 mm (optionally 2,400 mm)
Magazine capacity	4-60 positions depending on tooling
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

FACTS

- Transfer weight 250 kg (300 kg)
- Workpiece size up to 500 x 500 x 400 mm
- For milling, drilling, grinding machines
- Easy control with JMS 4.0
- Automatic pallet detection
- Perfect for retrofitting

EROWA Robot Easy

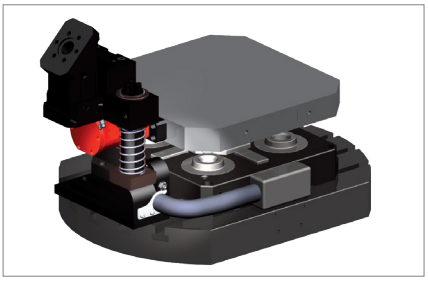
Productivity increase of existing machines



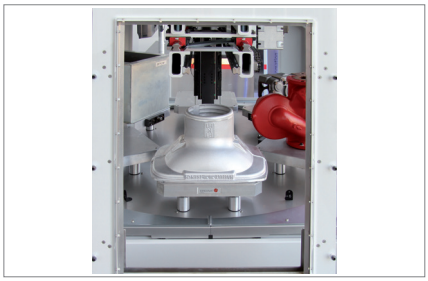
Retrofitting an existing machine with a Robot Easy brings amazing results.

Realize 4,000 productive hours per year per machine. That is, of course, in single-shift operation.

By cleverly setting up the work environment and properly adapting the processes.



No compressed air at the machine table? AirDock – this option solves the task.



No automatic door at the machine? RoboDoor – immediately retrofitted during robot installation.



more information: Weblink

The maintenance agreement. Order right away when you buy.



The EROWA JMS 4.0 process control system strongly supports the operator for optimal work planning.

State-of-the-art web technology combined with proven data management shows the status and predicts utilization.

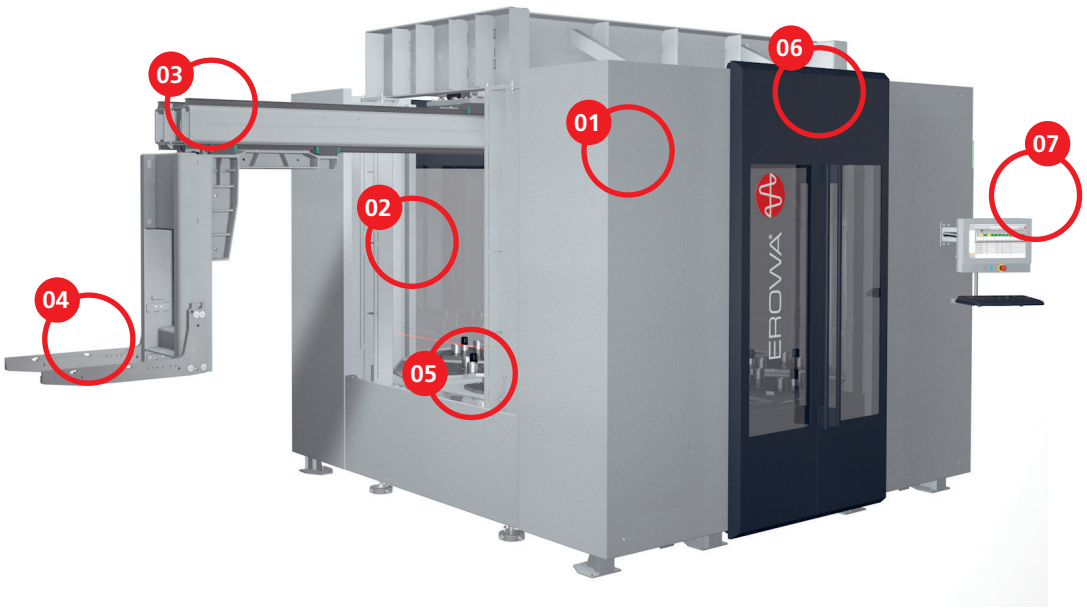
EROWA Robot Easy 800

High transfer weight

In the weight class up to 800 kg transfer capacity, the Robot Easy 800 impresses with its compact design and high configurability. This turns a CNC machine into an automated manufacturing cell at a reasonable cost.

Workpieces of ø 850 mm and heights up to 1,000 mm can be stored in the magazine.

more information:
Weblink - Robot Easy 800



01 | Self-supporting outer shell in EROWA design

02 | Chassis for a total payload of 6,400 kg

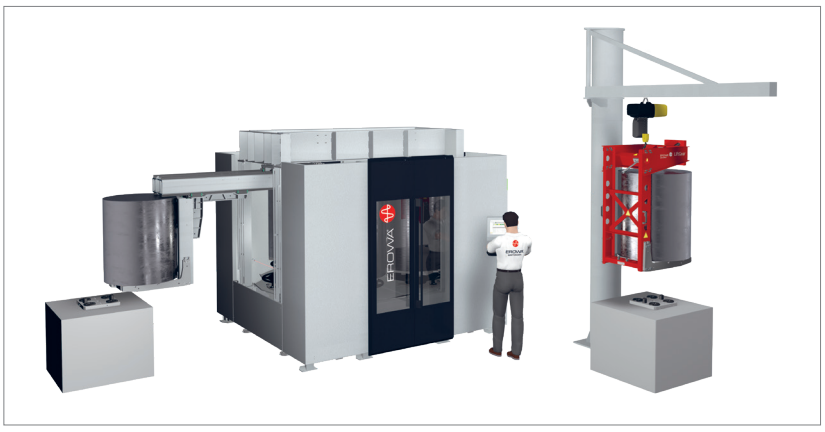
03 | Transfer axis with 3,200 mm travel

04 | Gripper fork for 800 kg pallets

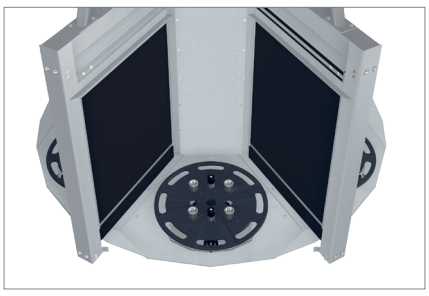
05 | Magazine capacity up to 12 positions

06 | Manual loading – Loading station with access to overhead crane

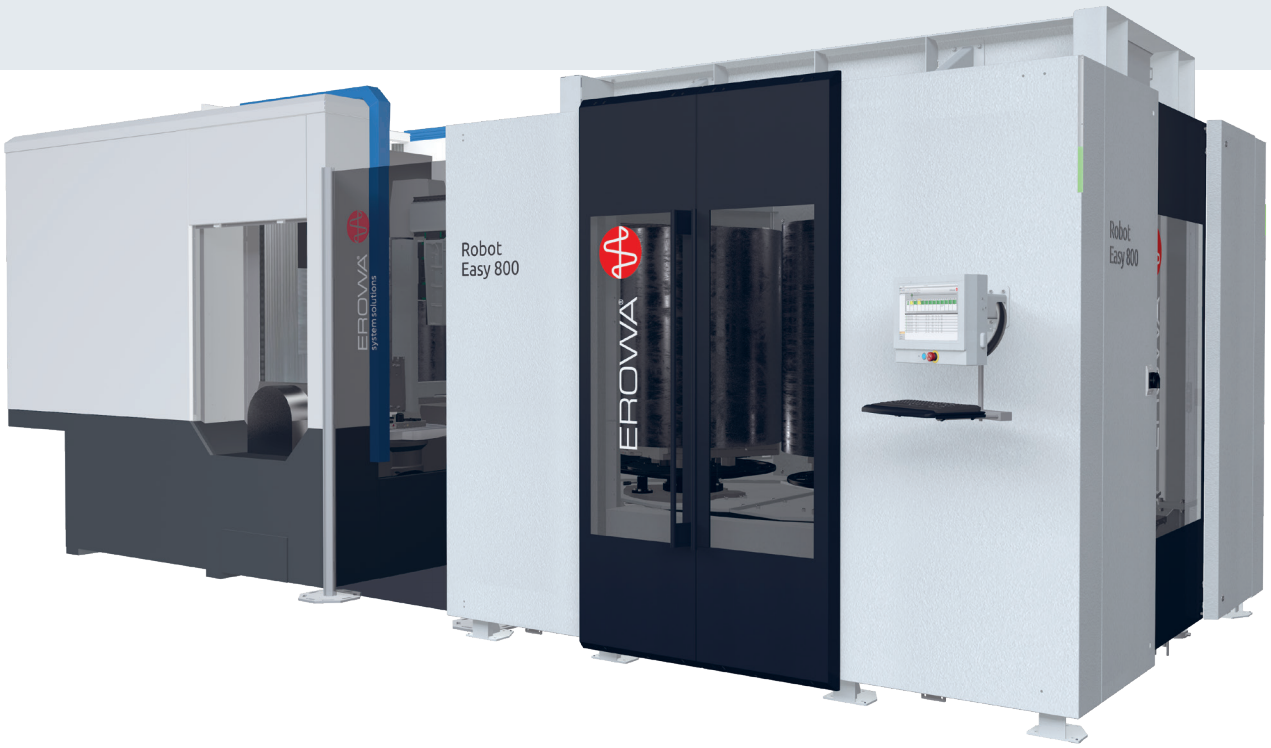
07 | System control via touchscreen



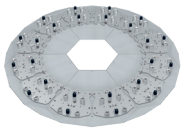
Large workpieces require completely well-thought-out peripherals: EROWA LiftGear with counterweight and a permanently mounted slewing crane for loading and unloading the pallets allow ergonomic working.



Useful detail: The roller blinds protect the magazine area. Working with compressed air on the setup station is perfectly fine.



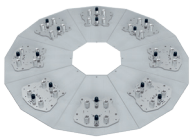
Specification based on maximum possible magazine positions per magazine version.



MTS 400

Number of positions 12

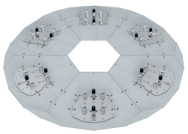
Weight per position in kg **530**



MTS 400/500

Number of positions 8

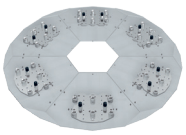
Weight per position in kg **800**



MTS 400/500/630

Number of positions 6

Weight per position in kg **800**



MTS 600 X 800

Number of positions 6

Weight per position in kg **800**

Technical data

EROWA Robot Easy 800	
Transfer weight	**800 kg**
Reach in machine	Stroke 3,200 mm
Height of workpieces	max. 1,000 mm
Working envelope of workpieces.	max. 850 mm
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

FACTS

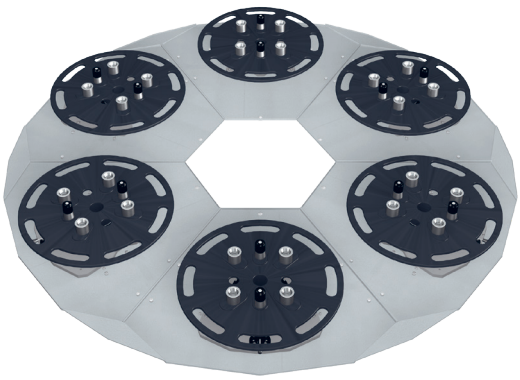
- Transfer weight 800 kg
- Easy access to setup station
- Rotatable magazine plates
- Access for loading with crane
- 6.4 t magazine capacity on 9 m^2
- Setup with open magazine door

EROWA Robot Easy 800

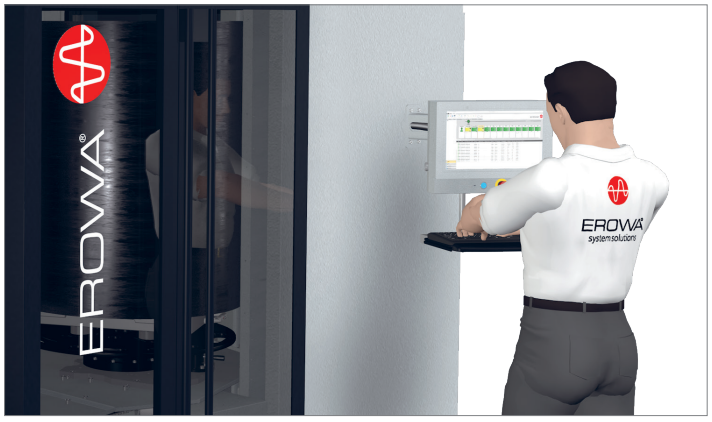
Optimum working environment



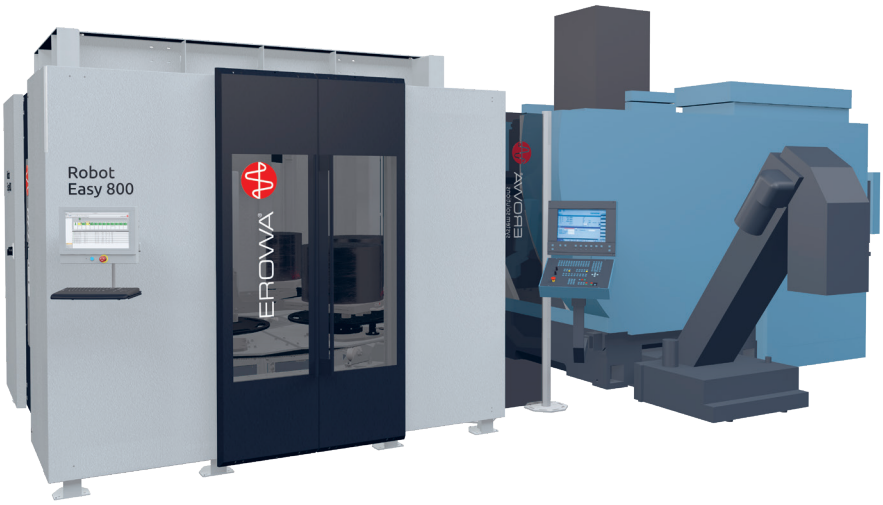
The size of the workpieces and fixtures used requires ergonomically optimal accessibility in the robot. This requirement is met with the integrated loading station. Loading with overhead or provided slewing crane. The rotatable magazine plates allow easy access to all sides.



Rotatable magazine plates: unrestricted access to workpieces or fixtures.



EROWA JMS 4.0. Keep an overview of jobs, utilization, and machine data at all times with the process control system.



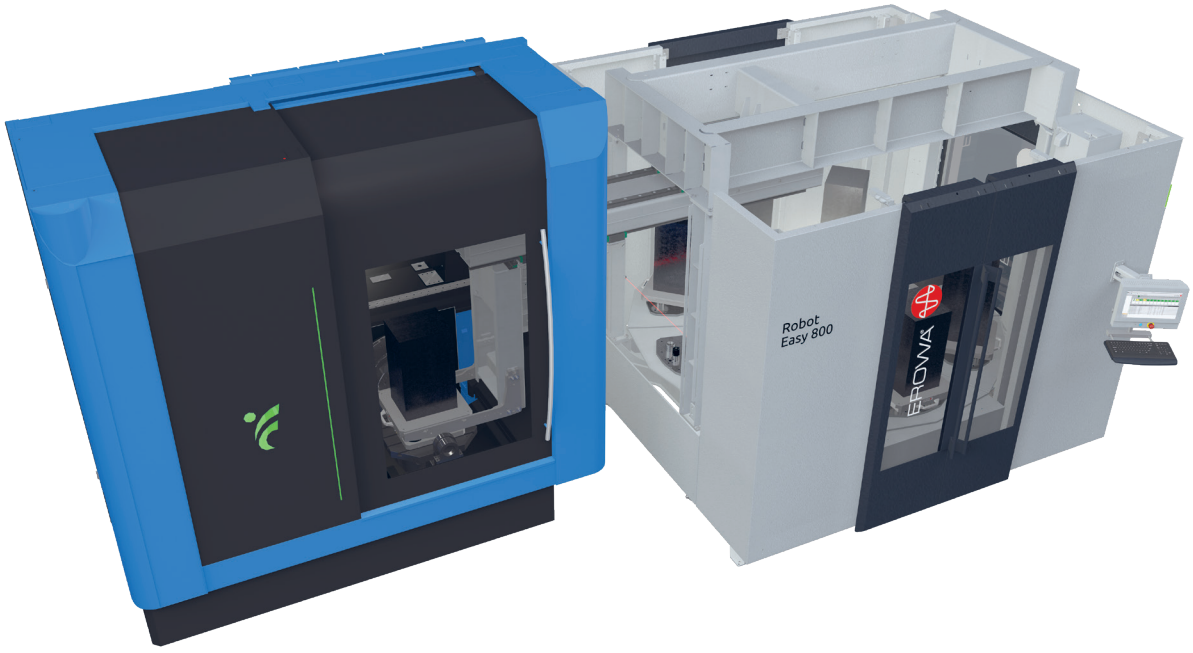
The long reach of the X transfer axis (2 m from the outer edge of the robot) allows positioning **in front of the machine**.

Nevertheless, manual work can be performed on the machine if required.



more information: Weblink

The maintenance agreement. Order right away when you buy.

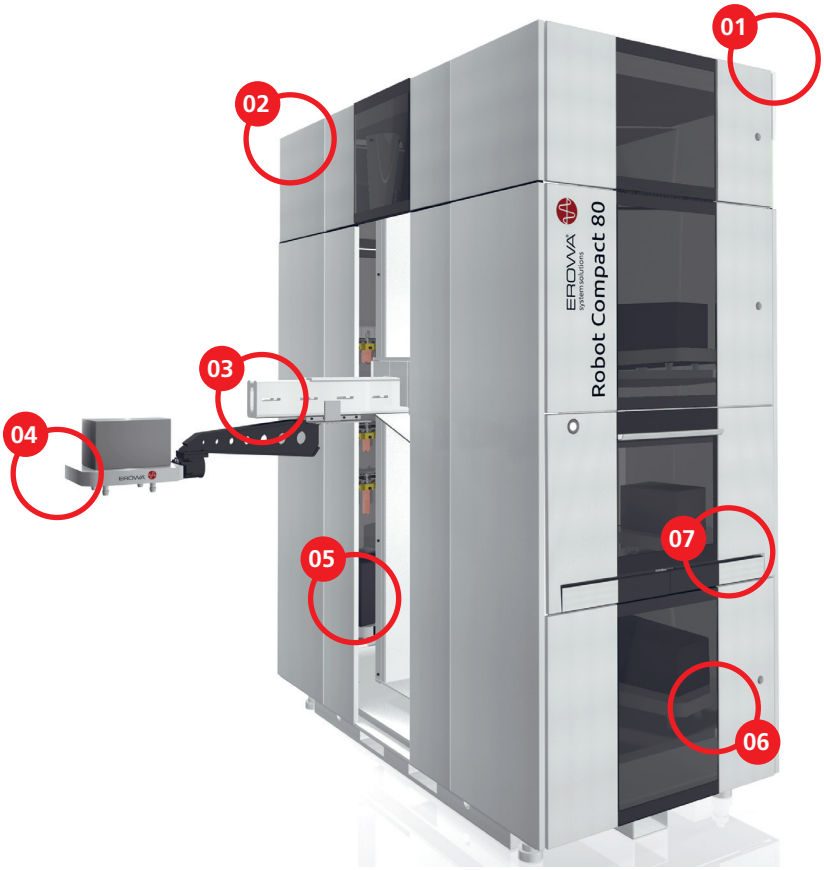


Positioned laterally **next to the machine**, accessibility through the operator door remains guaranteed. On the left or on the right is possible.

EROWA Robot Compact 80

Plenty of power - many benefits

more information:
Weblink - Robot Compact 80



01 | Status indicator integrated into the design

02 | Symmetrical design. On the left, right or between machines

03 | Long stroke for accessibility to machine tables

04 | Automatic gripper change for up to 11 clamping systems

05 | Magazine 2

06 | Configurable magazine levels

07 | Loading station in the ergonomically correct height



Small electrodes or large workpieces, space for everything.



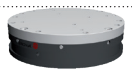
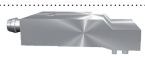
Ingenious quick-load setup with the push-through magazines.



Loading of large parts through the optional loading station.



Max. number of available pallet positions per magazine level

EROWA Tooling	Standard magazine level	
	ITS Compact holder	11
	ITS 50 / ITS 50 C holder	11
	ITS holder 72	11
	ITS pallet 115	5
	ITS pallet 148	5
	PM 56	11
	PM 85	9
	PM 128	5
	PC 210	3
	UPC	2
	PalletSet W	2 or 3*

* depending on the version

Technical data

EROWA Robot Compact 80		
Transfer weight	**80 kg**	
X-axis travel	Stroke	1,380 mm
Gripper change	Yes	Automatic
Two-machine operation	Yes	
Voltage (V+PE)	3x400	
Interface	Ethernet	
Workpiece identification	EWIS™ Rapid	
Process control system	JMS 4.0	

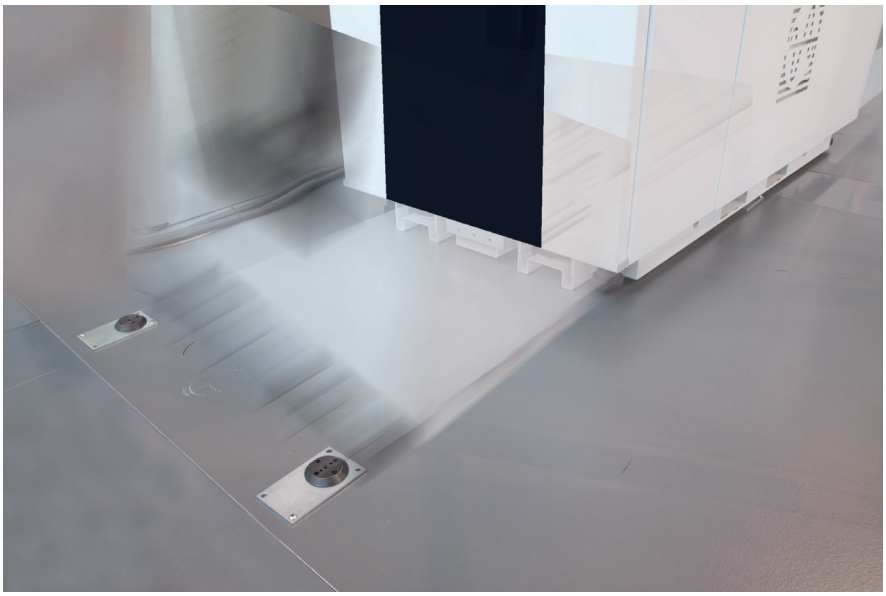
FACTS

- 2 m² footprint for 200+ parts
- Two-machine operation
- EWIS automatic pallet identification
- Integratable loading station
- Pull-out magazine drawers
- Space-saving additional magazine

Robot Compact 80

EROWA Robot Compact 80

Movable on all levels



Pneumatic lifting unit. Smooth relocation and tolerant centering.

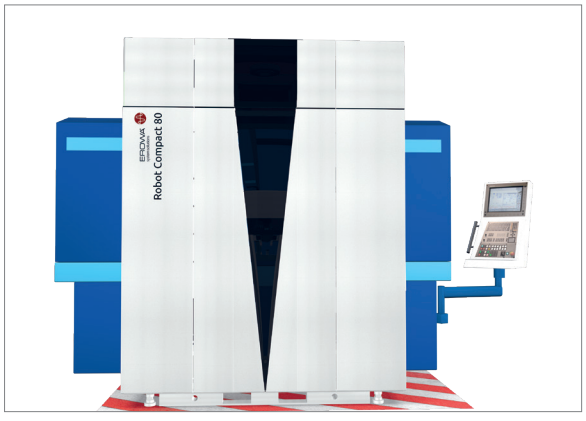


more information: Weblink

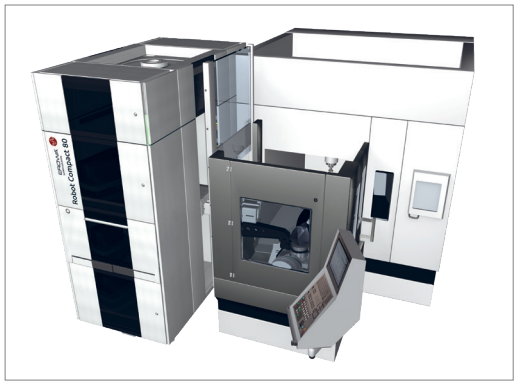
The maintenance agreement.
Order right away when you buy.



Lift – push away – lower. Manual machine operation with plenty of room to move.



In automatic mode, the robot is positioned right in front of the machine's loading door.



2 m² next to the milling machine is a very productively used space.



The additional magazine on the right of the ERC80 provides over 300 positions for workpieces to be machined.





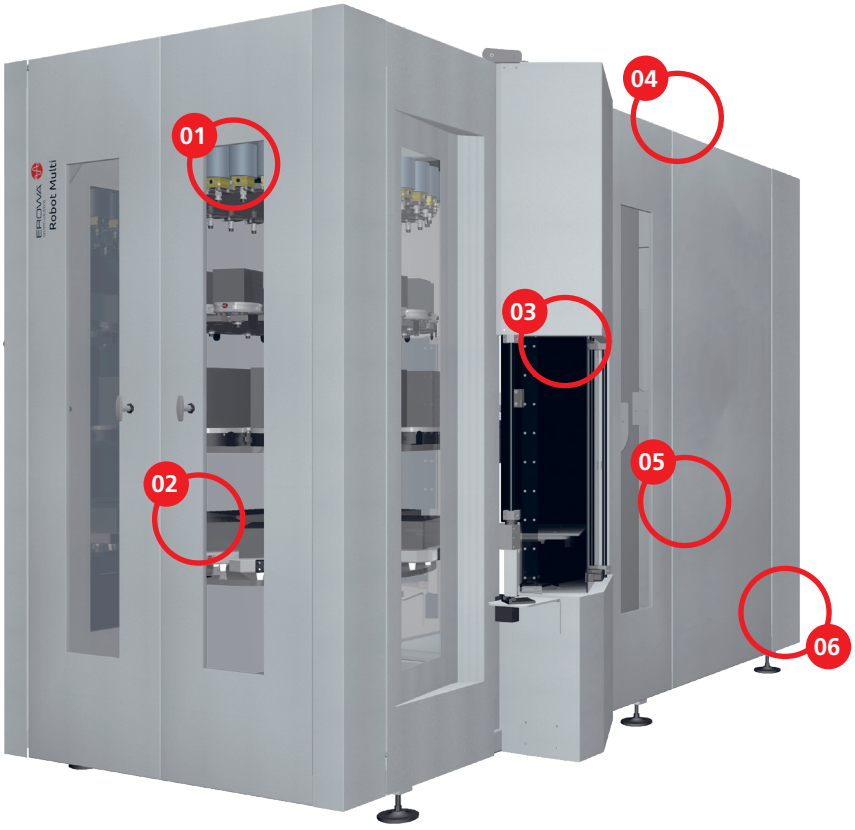
Design study and reality. The milling and EDM sinking machines are both served by the same robot. Tested and found to be useful.

EROWA Robot Multi

The multi-talent for EDM and milling

Loading small workpieces in large batches or large individual parts onto the machine? This is exactly what the EROWA Robot Multi is suited for.

more information:
Weblink - Robot Multi



01 | Rotating magazine with up to 270 positions.

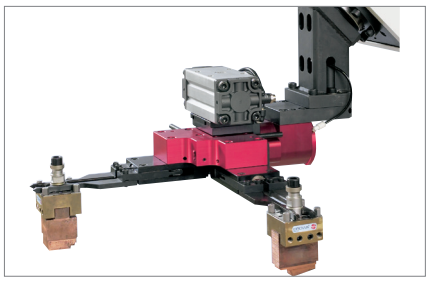
02 | Mixed loading from UPC to ITS50.

03 | Input and output of workpieces via the loading station.

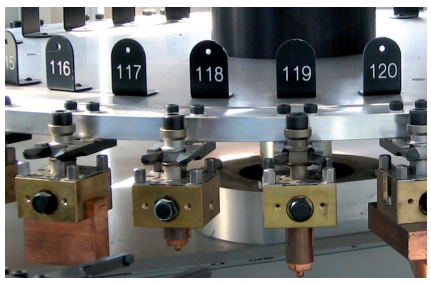
04 | Transfer weight: 80 kg.

05 | One or two-machine handling.

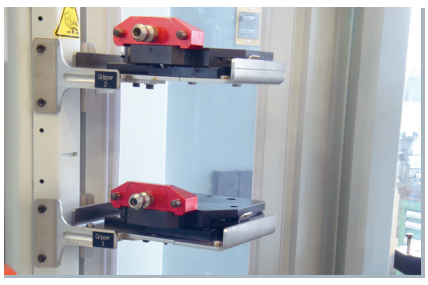
06 | Monoblock design for fast commissioning.



Fast electrode change thanks to the double gripper.



RFID chips for reliable identification of electrodes.



Gripper station next to the magazine, saves locations for workpieces.



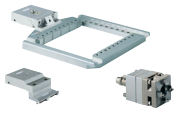
Specification based on maximum possible positions per magazine level.

WEDM

3 x frames

15 x holders

30 x UnoSet



Milling / EDM

10 x PC 210



Milling / EDM

5 x UPC



EDM / Milling

30 x ITS Compact

30 x ITS 50

30 Holder 72



EDM / Milling

15 x ITS 115/148



Milling

3 x MTS 400



Tool holders

Up to 60 HSK, CAT, ISO, BT, etc.



Technical data

EROWA Robot Multi	
Transfer weight	**80 kg**
Reach in machine	Stroke 1,200 mm
Number of positions	up to 270
Magazine plates (levels)	up to 12
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

FACTS

- Up to 270 magazine positions
- Integrated safety system
- 80 kg transfer weight
- Two-machine loading
- Milling, EDM, grinding, etc.
- For all EROWA systems

EROWA Robot Multi

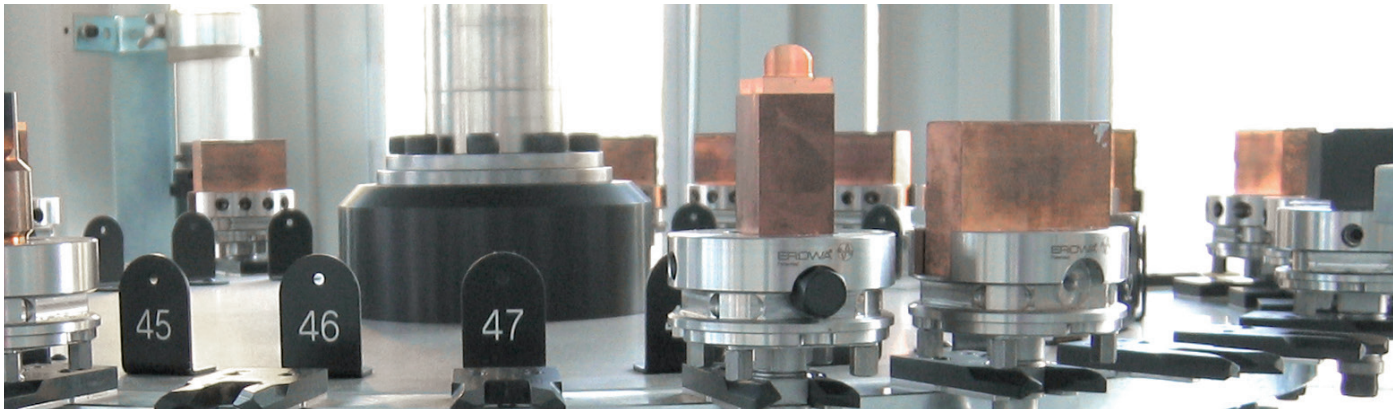
Always busy to the left and right



The return on investment is smartly shortened. The robot serves two machines.



The ingenious adapter system allows the moderate use of many EROWA system sizes on one and the same machine.



30 positions per level are available for electrode holders. With a maximum of 9 levels, this provides 270 positions.

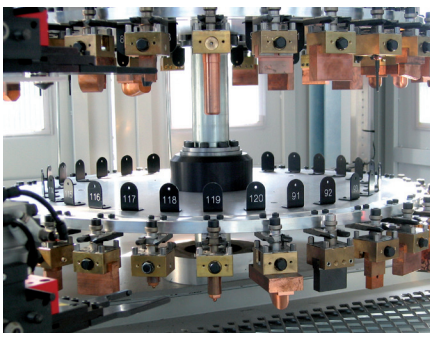


Every inch is utilized. Robot and machine form an optimized system.

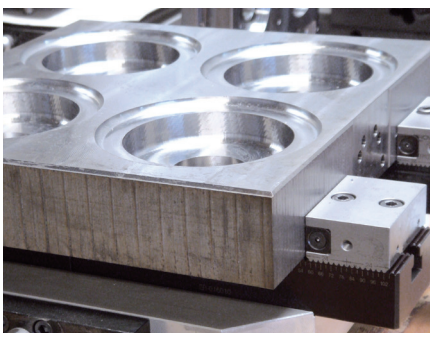


more information: Weblink

The maintenance agreement.
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The 270 positions add up to more than enough autonomy for an entire week-end.



The EROWA Robot Multi loads heavy pallets weighing up to 80 kg efficiently onto the machine.



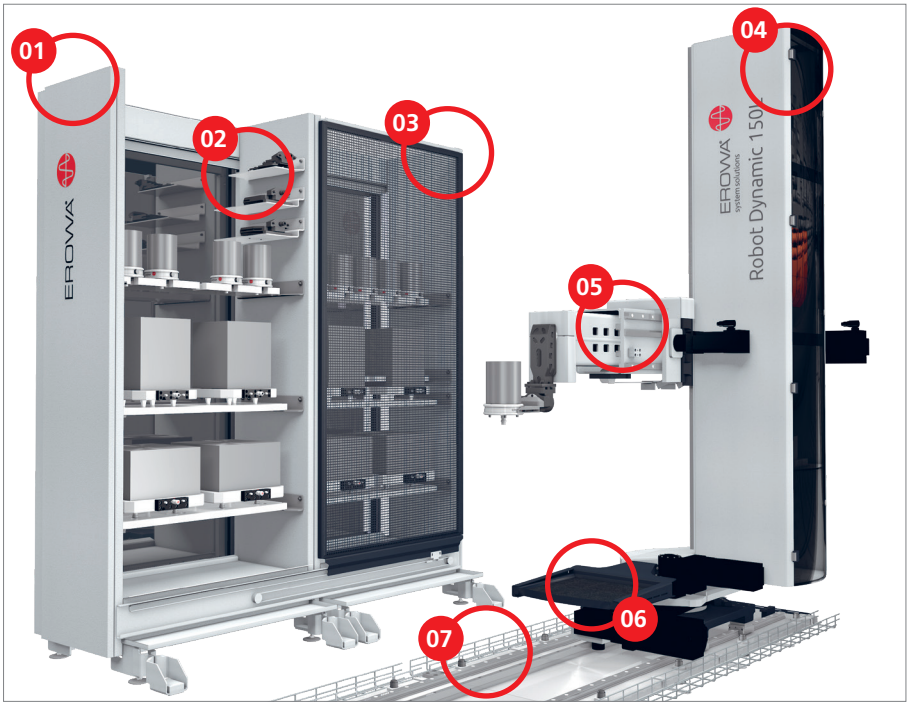
The integrated chip readers recognize the entire magazine contents in under 30 seconds.

EROWA Robot Dynamic 150L

More performance for less investment

more information:
Weblink - Robot Dynamic 150L

As much as necessary. This is the concept of EROWA Robot Dynamic 150L. You buy only as much automation as is currently necessary. When the requirements for your production capacity change, you can extend the modular system at any time.



01 | Freely configurable frame magazines.

02 | Space-saving station for changing grippers.

03 | Ingenious work safety – during loading from the outside, the robot does not reach in.

04 | Transfer device with 150 kg load capacity.

05 | Space-optimized telescopic axis for long reach with small obstacle contour.

06 | **Clean –** the drip tray retains liquid.

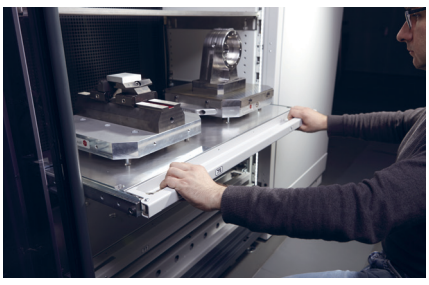
07 | Linear axis, extendable in segments up to 30 meters in length.

08 | Process control system, transparent and informative.

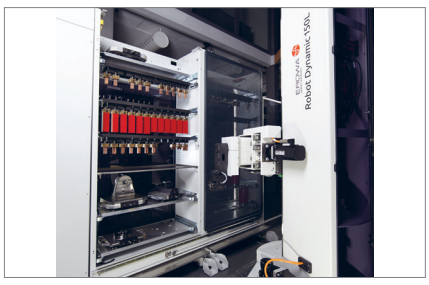
09 | Access control via area scanner.

10 | Loading station at an ergonomic height for setup work

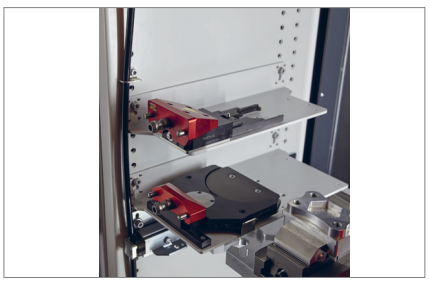
11 | Fully integrated 3D measuring station EROWA CMM Qi.



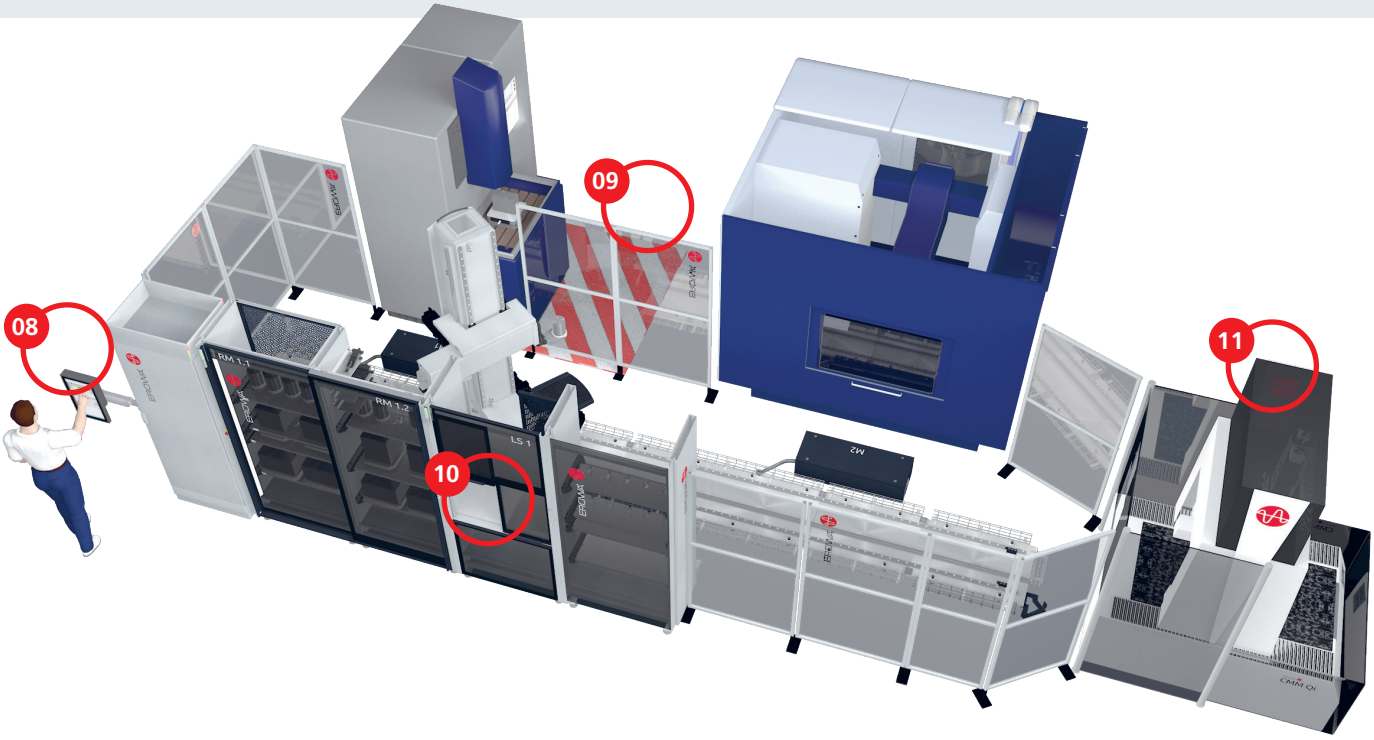
Rack magazines with space-saving sliding doors and pull-out levels



During manual loading of the magazines, the robot continues to work.



The gripper station in the rack magazine, short changeover times.

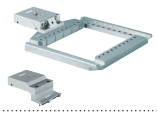


These tooling systems are especially suitable for the following types of machining:

WEDM

PalletSet W frame

PalletSet W holder



EDM

ITS 50

Holder 72



EDM and cutting

ITS 115/148



Cutting

PC 210



EDM and cutting

UPC



Cutting

MTS 400



Technical data

EROWA Robot Dynamic 150L		
Transfer weight	**150 kg**	
Reach in machine	Stroke	1,375 mm
Rail length max.	Stroke	30 m
System height incl. rail	Stroke	2,640 mm
Space height min.		2,800 mm
Voltage (V+PE)	3x400	
Interface	Ethernet	
Workpiece identification	EWIS™ Rapid	
Process control system	JMS 4.0	

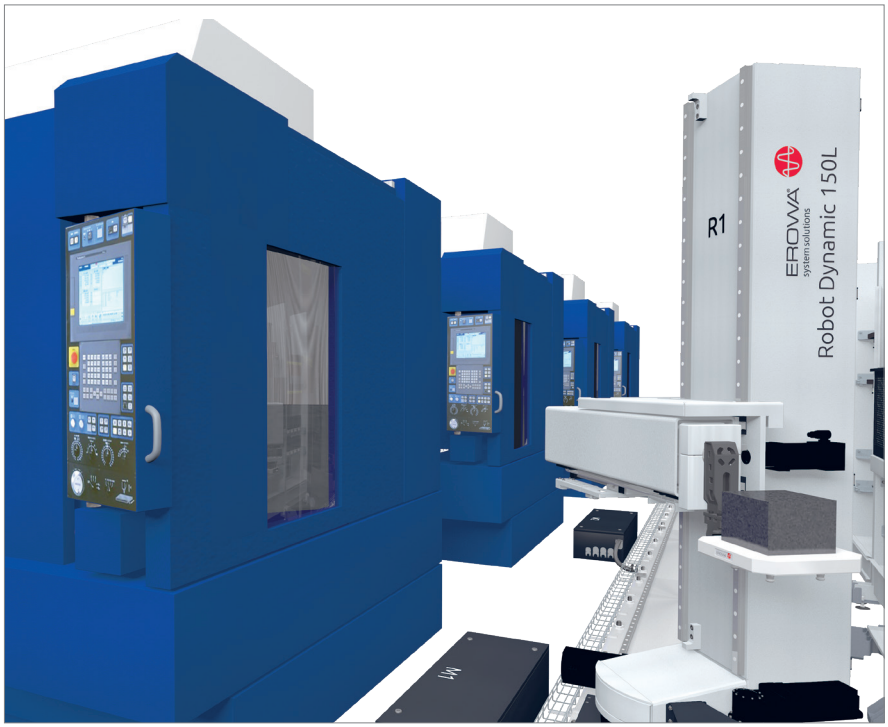
FACTS

- Highly modular design
- Integrated safety system
- Minimum footprint
- Autonomous magazines
- Low-cost safety barriers
- Optimally calculated investment

Robot Dynamic 150L

EROWA Robot Dynamic 150

High modularity





more information: Weblink

The maintenance agreement.
Order right away when you buy.

Up to twelve (12) CNC machines can be served by one Robot Dynamic 150L.

Preserve your investment
Previously installed systems can be extended with additional modules at any time. Your basic investment is preserved, reducing the cost of the extension.





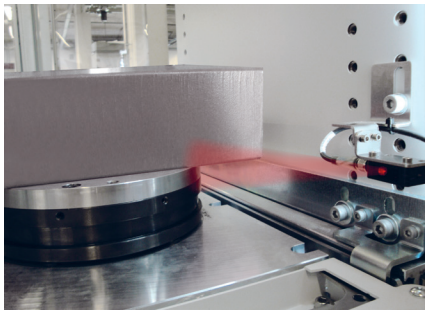
Standardized interfaces to the important machine controls.



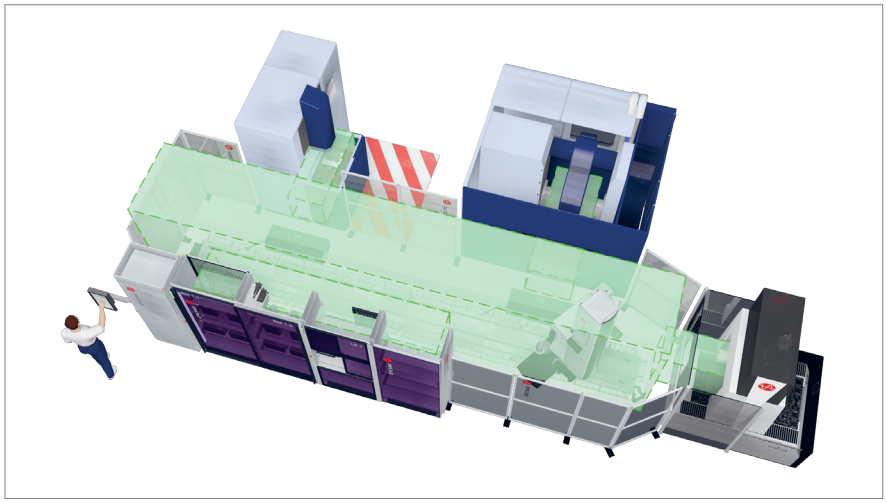
Uncompromisingly developed for Industry 4.0: High function density with the most straightforward operation.



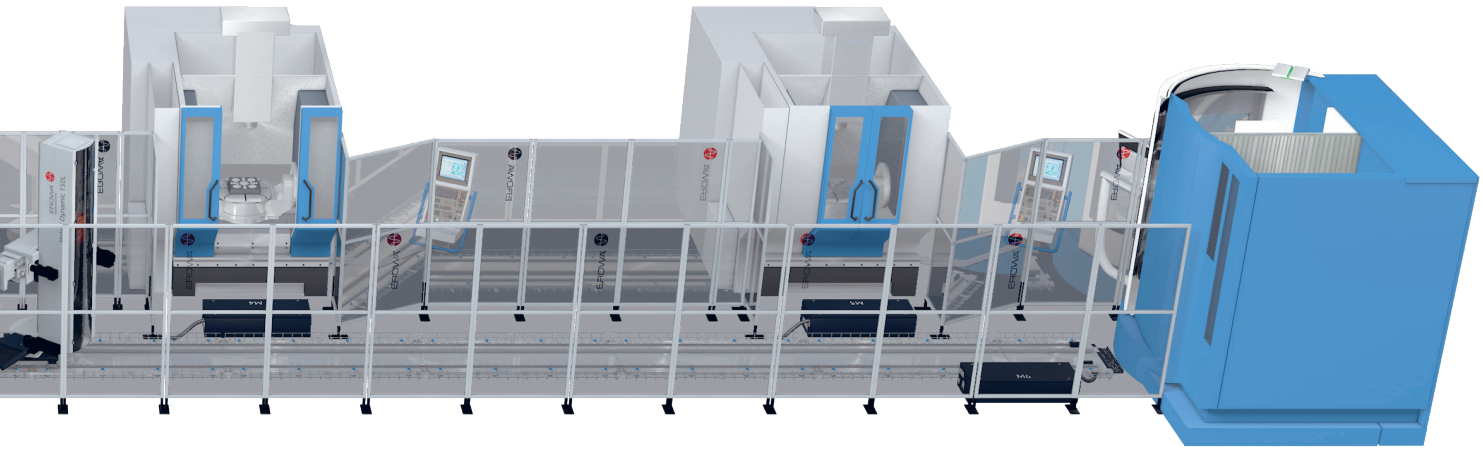
Cost-effective: maximum benefit for minimum investment.



Process safety through monitoring via RFID chips.



Thanks to the "Integrated Safety" software, only access protection is required. The barriers are modular and affordable to purchase



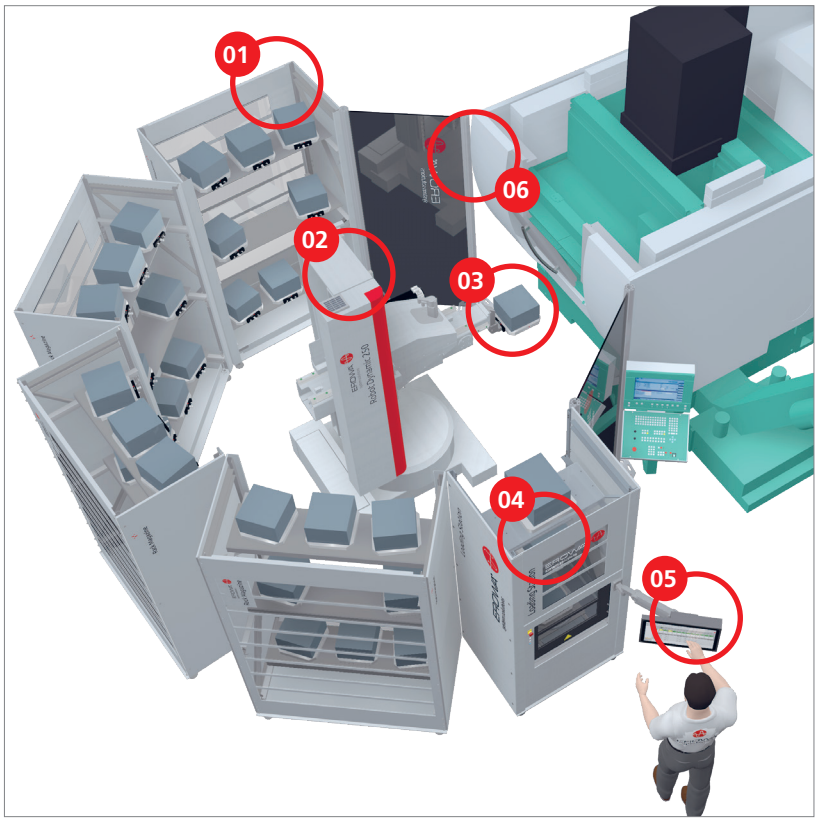
Robot Dynamic 150L

EROWA Robot Dynamic 250

The rail connects machines

The EROWA Robot Dynamic 250 can always be adapted and extended. The basic investment is protected. So it's always the right decision to go for the modular concept of the Robot Dynamic 250.

more information:
Weblink - Robot Dynamic 250



01 | Up to 12 rack magazines are available for work supply

02 | The transfer unit moves workpieces from 1 - 250 kg

03 | Automatic gripper change is integrated

04 | The loading station for loading and unloading palletized workpieces

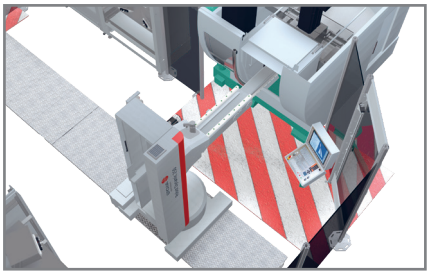
05 | Always maintain an overview with the process control system

06 | Safety barrier according to machinery directive

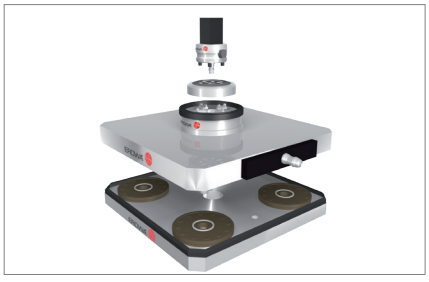
07 | 20 meters of rail connect machines and magazines

08 | For electrodes or small workpieces: rotary magazines

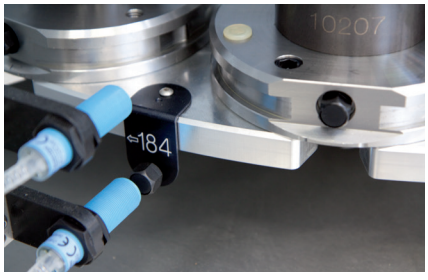
09 | Loading station for oversized workpieces



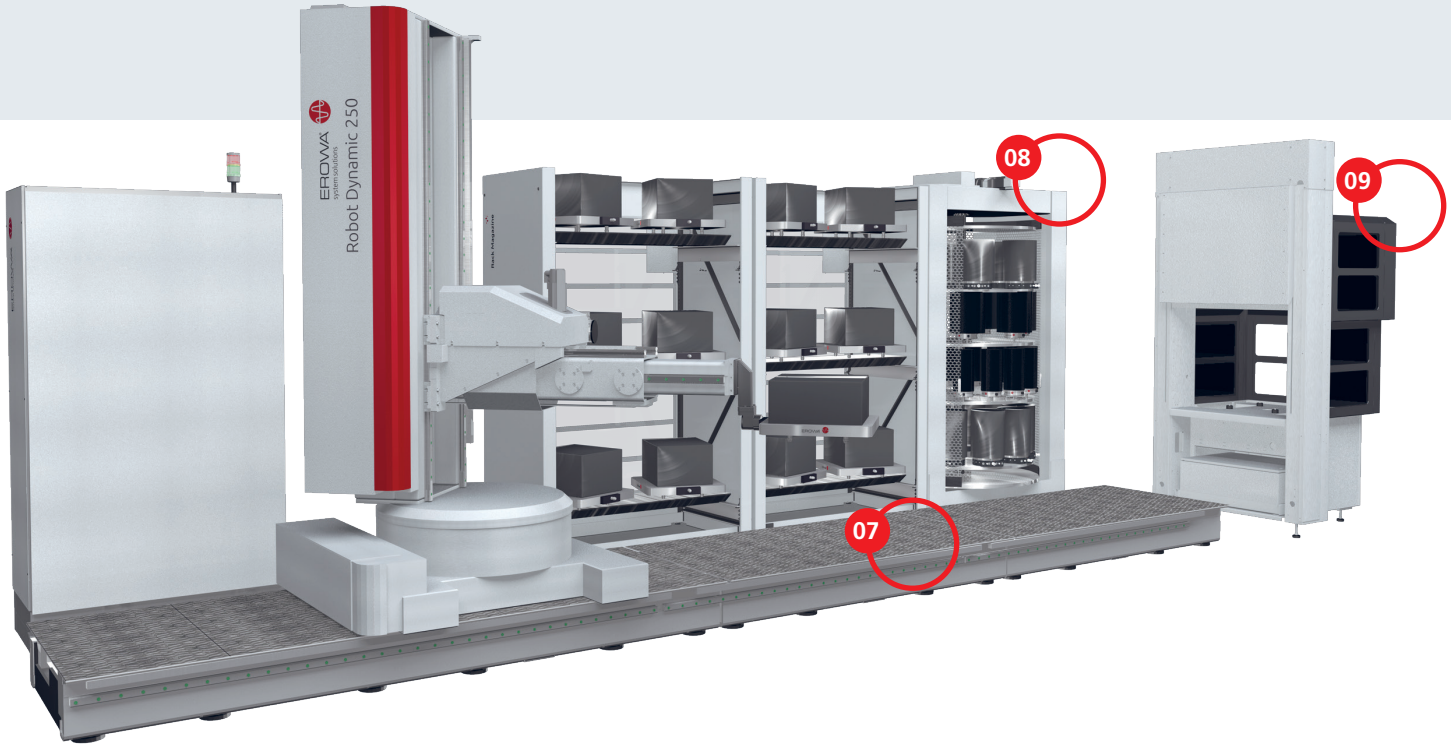
Enough space to work manually as well. Safety through area scanners.



The robot changes the system size itself based on the orders it receives.



Each magazine position and each pallet is monitored by RFID chip. EWIS (TM)



These tooling systems are especially suitable for the following types of machining:

WEDM

PalletSet W frame

PalletSet W holder



EDM

ITS 50

Holder 72



EDM and cutting

ITS 115/148



Cutting

PC 210



EDM and cutting

UPC



Cutting

MTS 400



Cutting

MTS 500



Technical data

EROWA Robot Dynamic 250	
Transfer weight	**250 kg**
Reach in machine	Stroke 2,350 mm
System height incl. rail	Stroke 3,550 mm
Rail length max.	Stroke 20 m
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

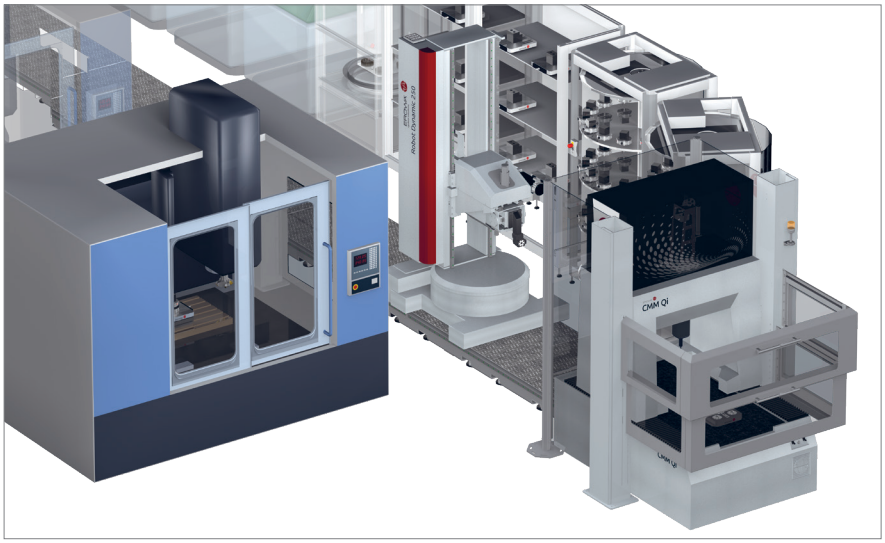
FACTS

- Up to 20 m rail length
- Machines can be positioned on all four sides
- Transfer weight of up to 250 kg
- Telescopic arm with a large range
- Automatic gripper change
- Magazines configurable depending on tooling

Robot Dynamic 250

EROWA Robot Dynamic 250

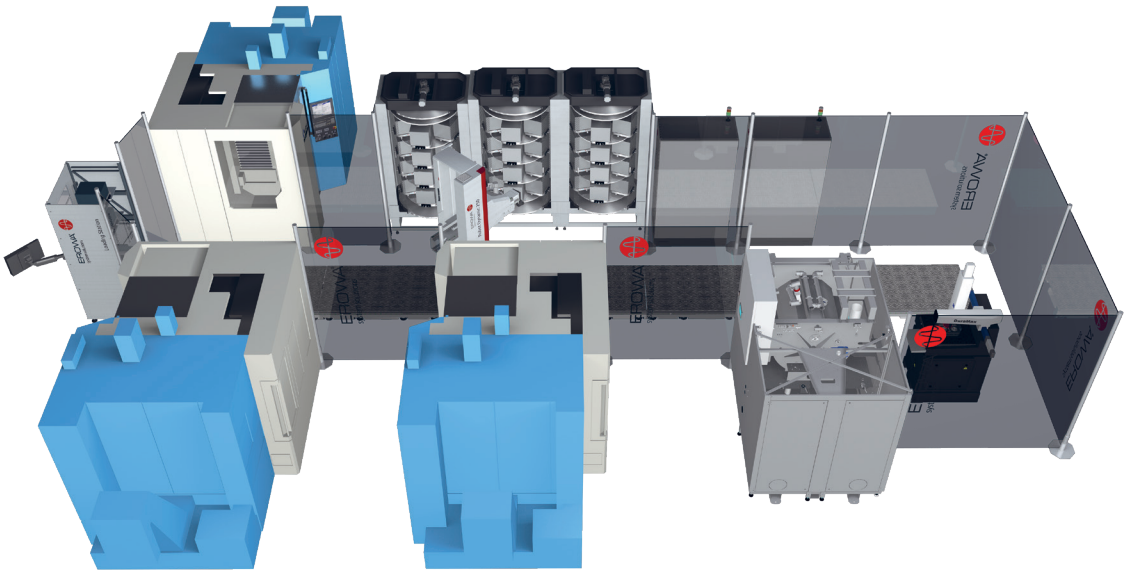
Adapt as needed



Measuring is often integrated into the process. The EROWA CMM Qi measuring station can be seamlessly integrated into the manufacturing cell.



Washing and drying, can be integrated with EROWA RoboSpa.



Automation in the workshop. Always adapted to the customer's needs.

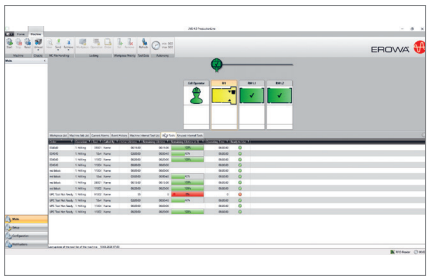
The Robot Dynamic 250 provides machines of different technologies with workpieces and tools.



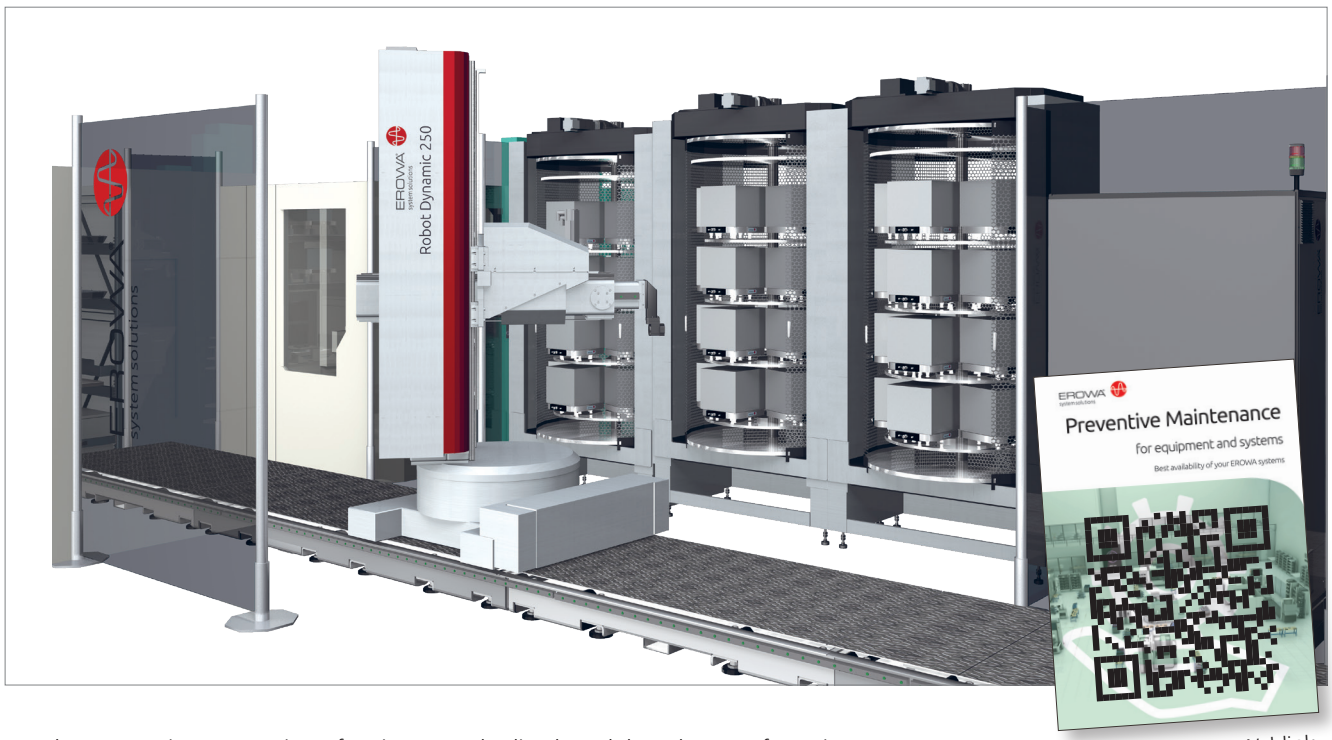
The process control system is a crucial factor in productivity.



The operator gets information about the utilization and efficiency of the production cell via the WebApp dashboard.



Which tools have to be changed before the end of the day? A look at the control system answers the question.



A Robot Dynamic 250 consists of various standardized modules. The transfer unit and various magazines form the basis. They are supplemented with a gripper station, loading station, and linear axis. Extensions are sure to fit any existing installations.

more information: Weblink

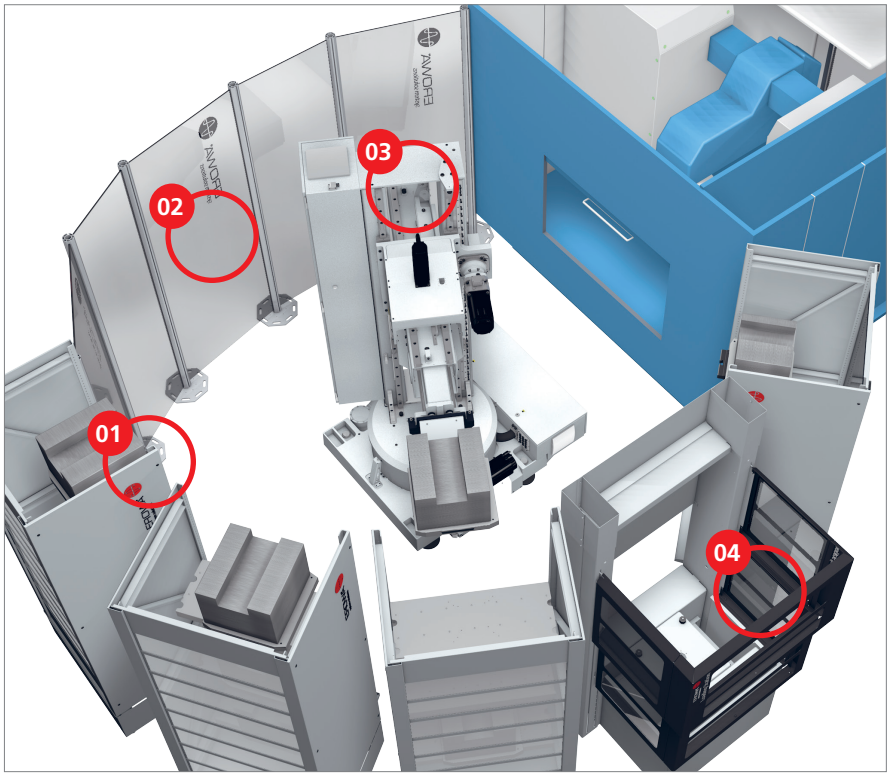
The maintenance agreement. Order right away when you buy.

EROWA Robot Dynamic 500

500 kg transfer weight

From zero to five hundred in 15 seconds. That's the time the robot needs to change the gripper and pick up the heavy pallet. Despite the capacity for heavy loads, lightweight pallets are transported with the same reliability as well.

more information:
Weblink - Robot Dynamic 500



01 | The ERD 500 manages up to 9 rack magazines

02 | Access safety barriers

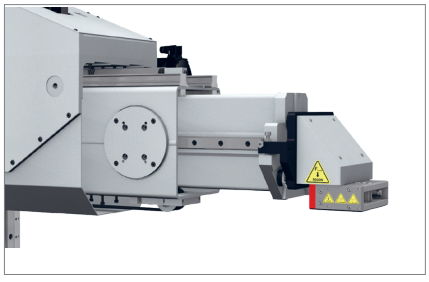
03 | The transfer unit

04 | Loading and unloading station

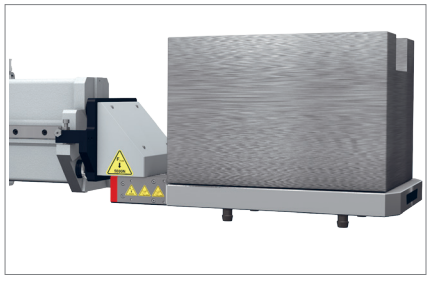
05 | Frame magazines for a large quantity of pallets

06 | Machine tools

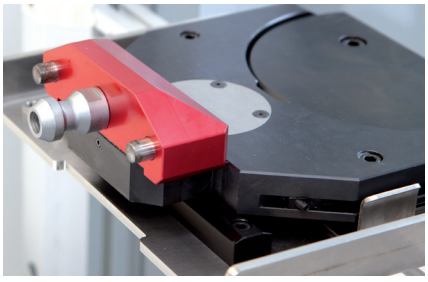
07 | Controls a total of up to 8 machines



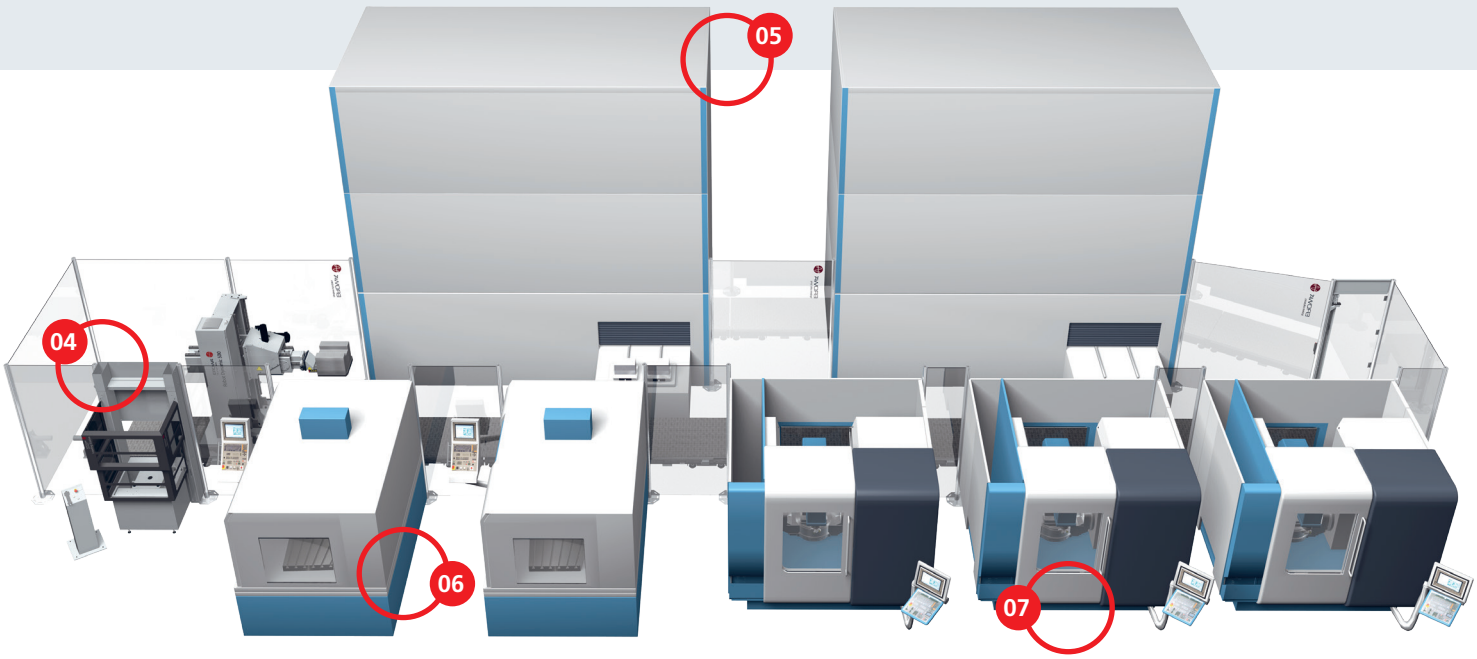
Gripper coupling WGS as the basis for all exchange grippers.



WGS grippers for 500 kg pallets.



Automatic gripper change when required



These tooling systems are especially suitable for the following types of machining:

WEDM

PalletSet W frame

PalletSet W holder



EDM

ITS 50

Holder 72



EDM and cutting

ITS 115/148



Cutting

PC 210



EDM and cutting

UPC



Cutting

MTS 400



Cutting

MTS 500



Technical data

EROWA Robot Dynamic 500	
Transfer weight	**500 kg**
Reach in machine	Stroke 1,950 mm
System height incl. rail	Stroke 3,100 mm
Rail length max.	Stroke 20 m
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

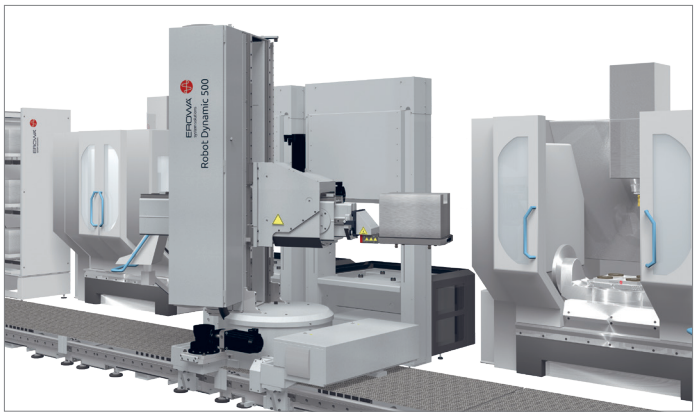
FACTS

- Up to 20 m rail length
- Transfer weight 500 kg
- Integrable cleaning station
- Long reach into the machine
- Integrated safety system
- Long-life systems

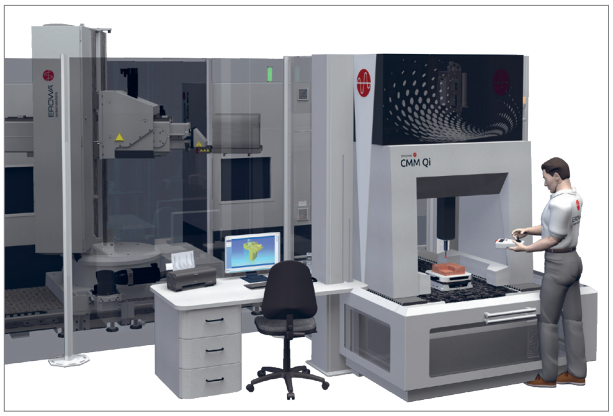
Robot Dynamic 500

EROWA Robot Dynamic 500

Suitable for loading large and small workpieces



Rack magazines with up to 2,000 kg load capacity.



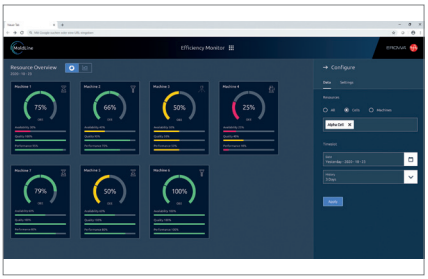
These days, integrated quality control is a must. Integrating an EROWA CMM Qi measuring station in your process line will also take care of this requirement.



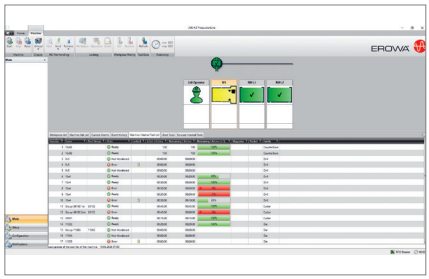
Enough magazine capacity for a whole weekend of autonomy

Ergonomically correct loading station for setup work

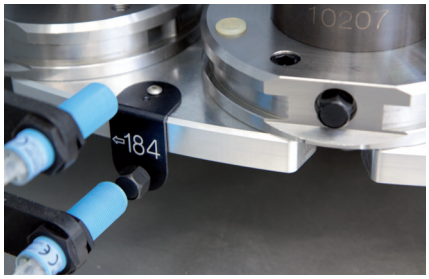
Standardized interfaces to the machining tools



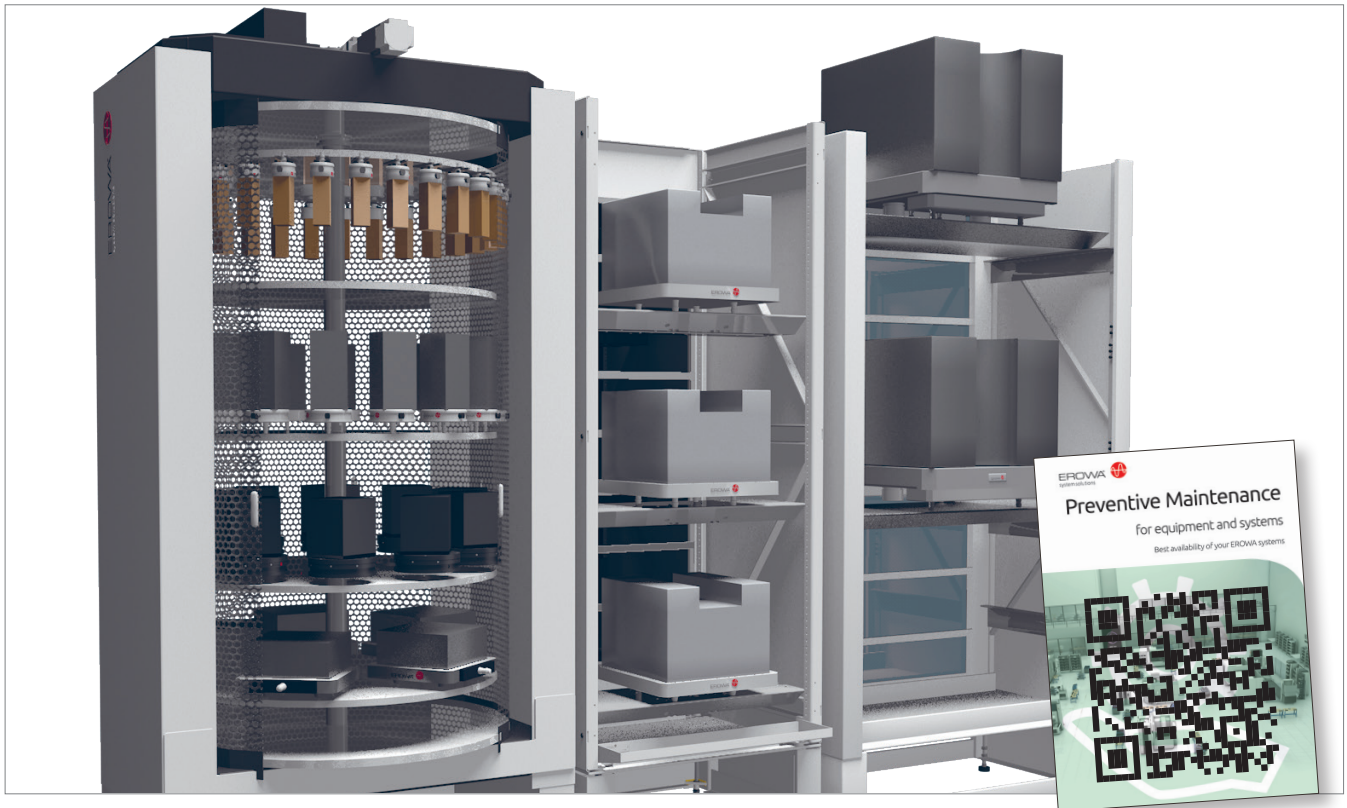
Maintain an overview at all times with the OEE dashboard.



The JMS 4.0 process control system provides essential support for the operators.



Each magazine position and each pallet are continuously monitored. The EWIS™ Rapid recognition system ensures a clear view.



From small electrodes to large workpiece pallets – the EROWA Robot Dynamic 500 serves them all.

more information: Weblink

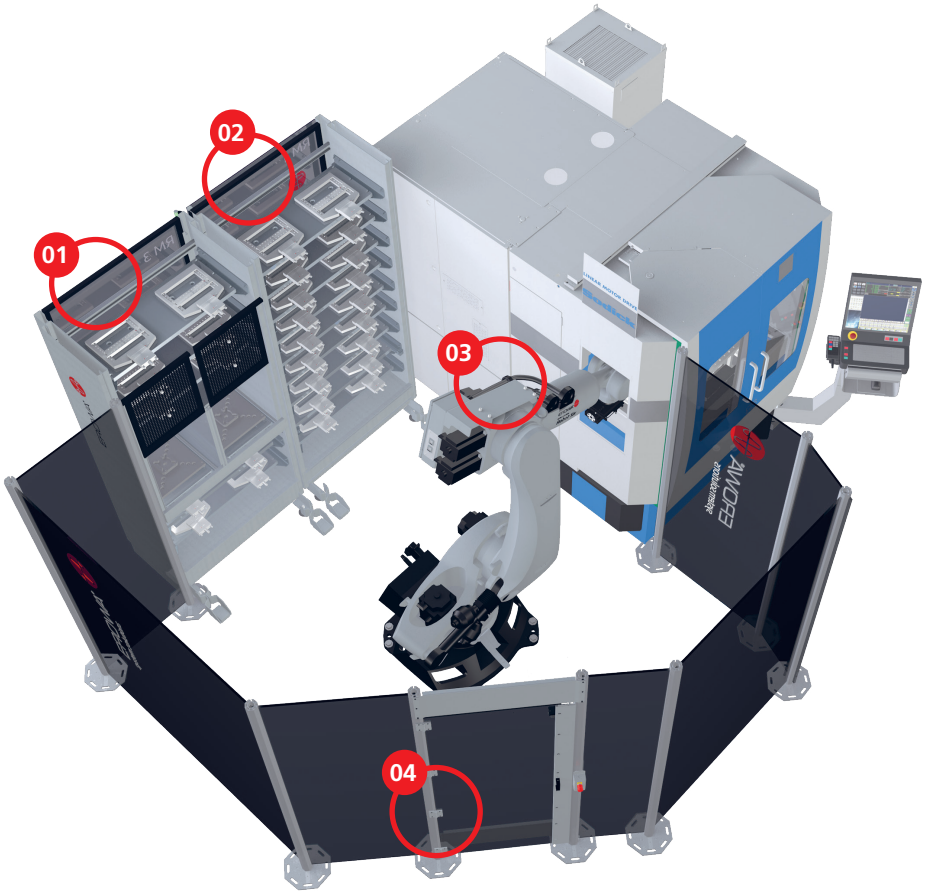
The maintenance agreement. Order right away when you buy.

EROWA Robot Six

Six axes for the future

Whether it's handling palletized workpieces, blanks, tooling, or all together – EROWA develops a solution specifically tailored to your Smart Factory.
For this purpose, we use standardized components from our proven EROWA portfolio.

more information:
Weblink - Robot Six



01 | Rack magazine with integrated loading station

02 | Rack magazine

03 | Robot Six handling facility

04 | Secured door in the safety barrier

05 | Robot Six on rails

06 | Transparent access barrier

07 | Loading and unloading stations with setup station

08 | Rack magazines

09 | System control



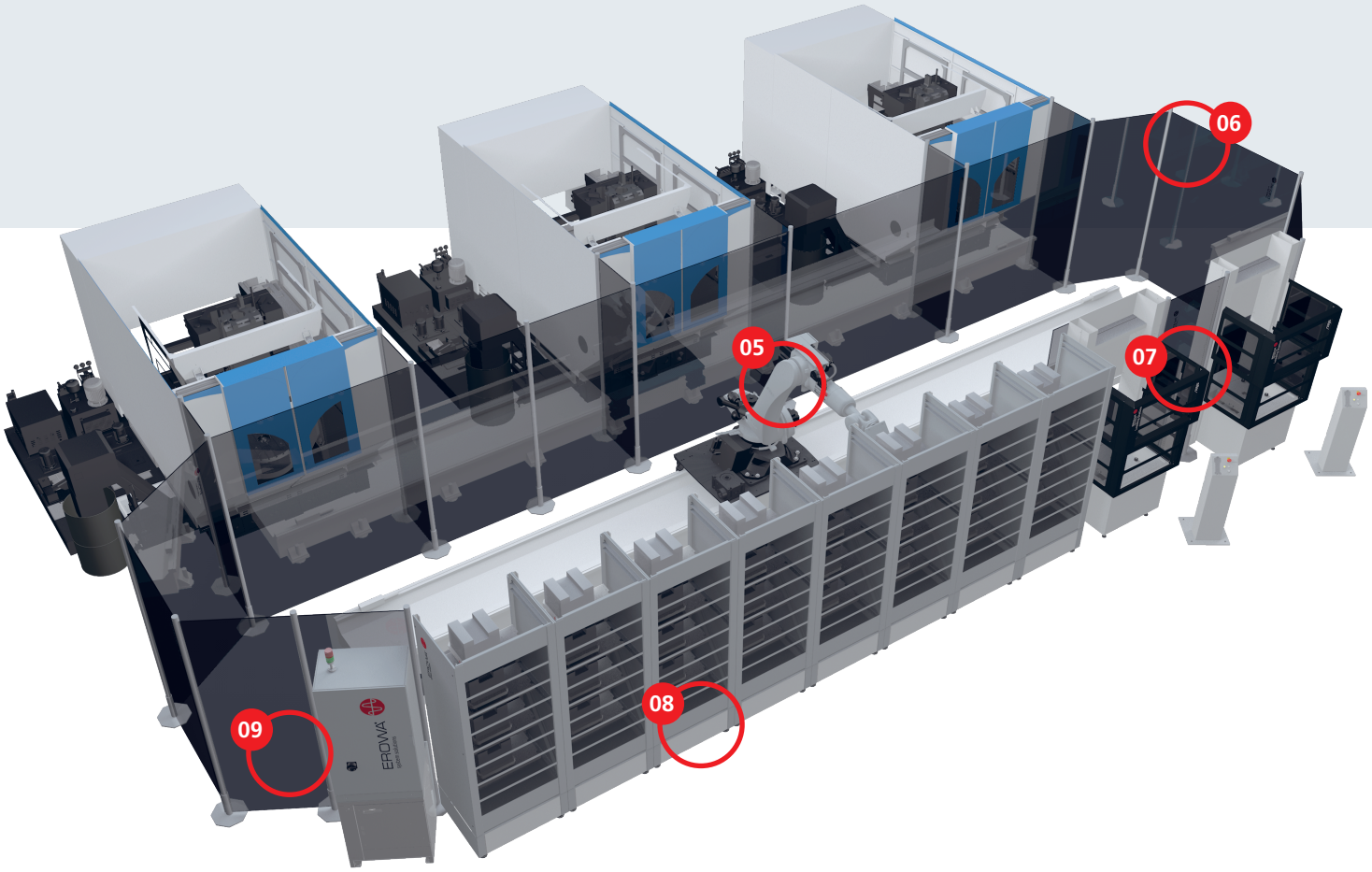
For projects up to 800 kg and a travel distance of 30 m.



Desired autonomy and average processing time give the required number of storage positions.



The utilization of the robot is calculated in order to always provide the machine with supplies in time.

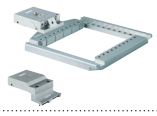


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PalletSet W frame

PalletSet W holder



EDM

ITS 50

Holder 72



EDM and cutting

ITS 115/148



Cutting

PC 210



EDM and cutting

UPC



Cutting

MTS 400



Technical data

EROWA Robot Six	
Transfer weight	**30 - 800 kg**
Rail length max.	30 m
Voltage (V+PE)	3x400
Interface	Ethernet
Workpiece identification	EWIS™ Rapid
Process control system	JMS 4.0

FACTS

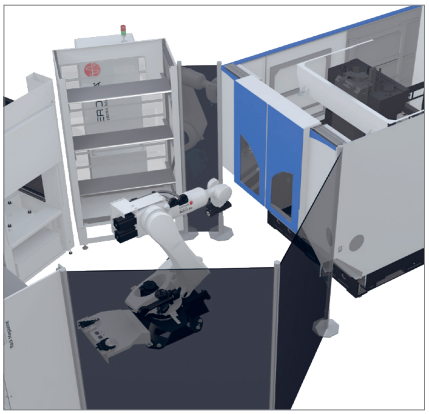
- Application and demand-oriented
- Loading of pallets, blanks, tools, semi-finished products
- Easy control with JMS 4.0
- Connection of AGV units
- Proven, affordable EROWA standard components

EROWA Robot Six

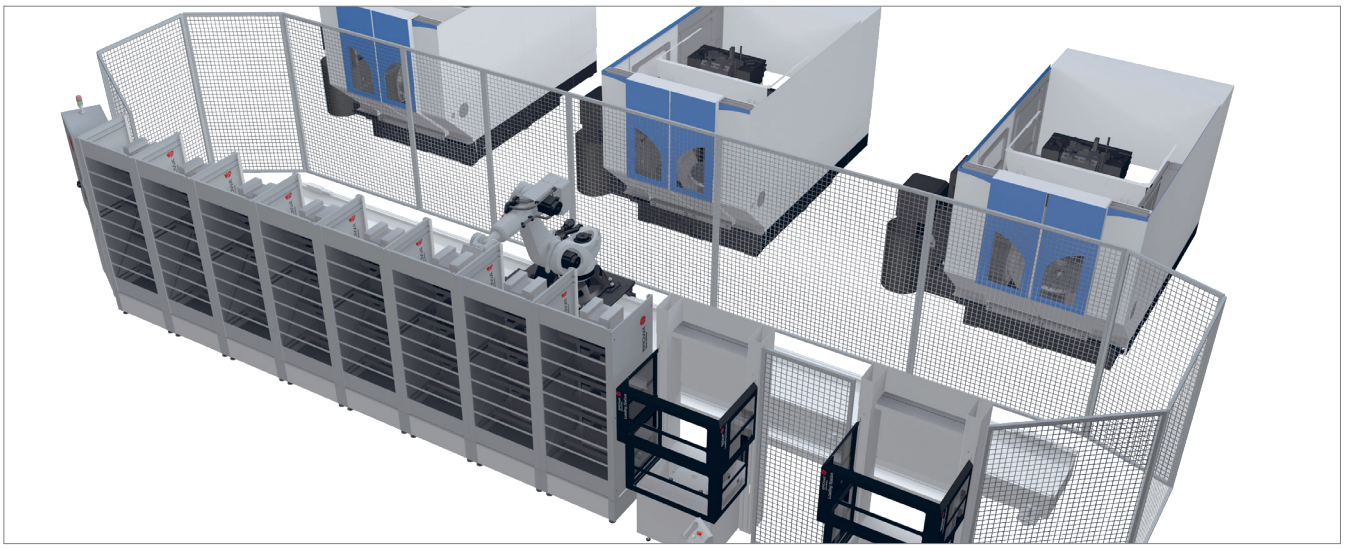
Carefully thought out down to the last detail



Job Management System 4.0 – the core of productivity
Everything at a glance in real-time. Operators and planners can see the status of the system, the individual machines, the work supply, and much more.
Modern web technology and an optimal screen design show the efficiency of the entire system at all times on PCs or mobile devices.



When only one machine is served, the rail is not necessary. The six-axis robot has sufficient freedom of movement to reach the table chuck from each magazine position.



Typical project planning for a flexible production line. The input and output stations are the workstations of the system operators.

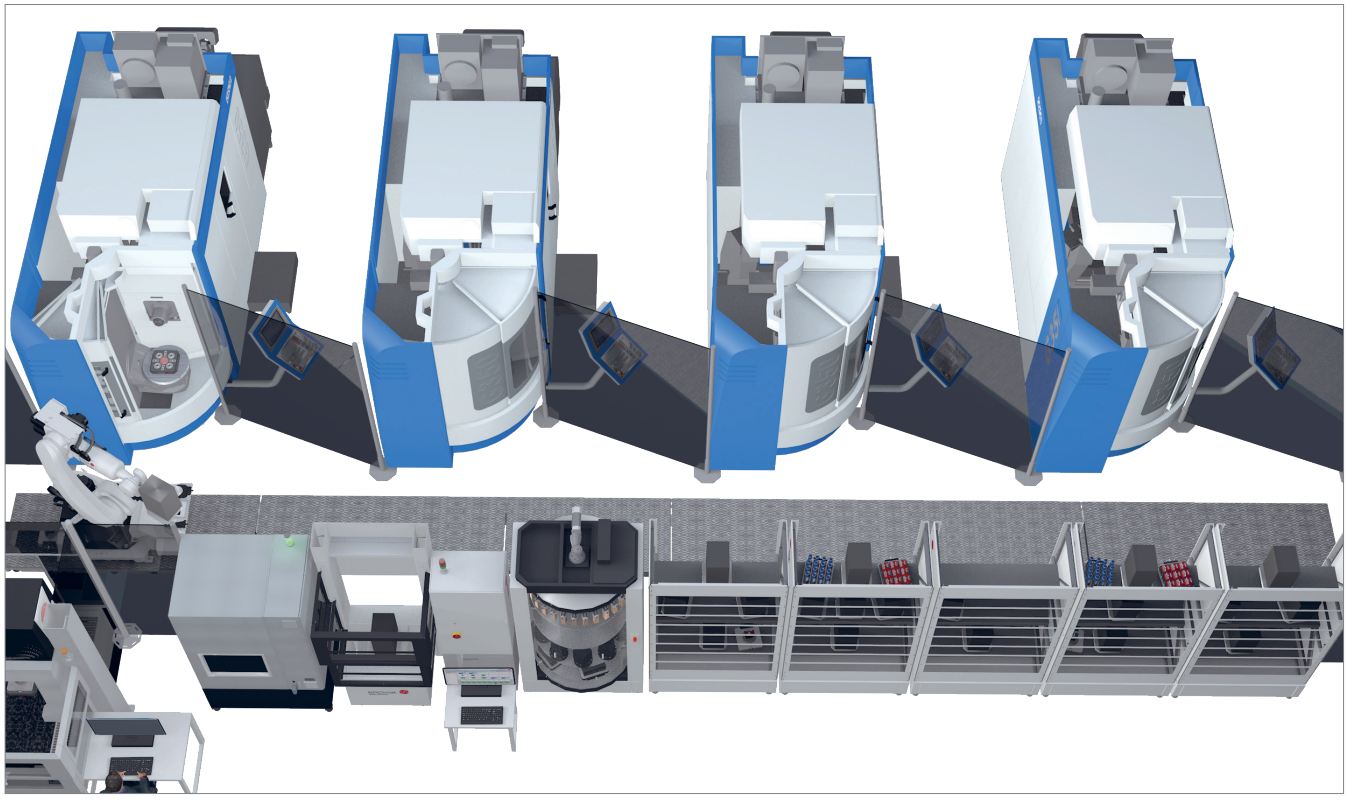


A project for tool and mold making. Seven identical die-sinking EDM systems are served by the same robot. The electrodes are provided in the rotary magazines and the workpieces in the racks. A measuring station for quality control is also integrated.



more information: Weblink

The maintenance agreement. Order right away when you buy.



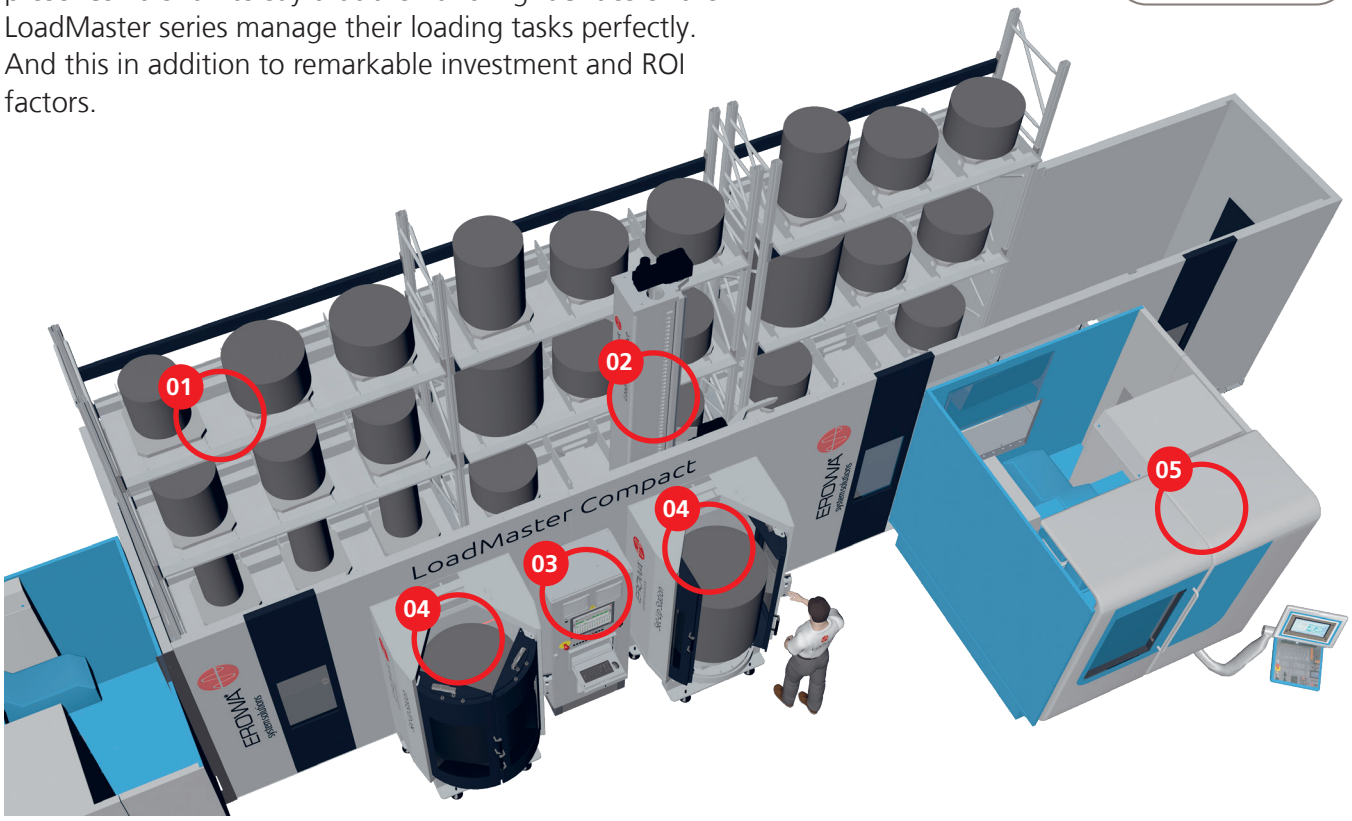
Both palletized individual parts and electrodes and blanks for active clamping devices are reliably changed by Robot Six.

LoadMaster Compact by EROWA

For heavy workpieces

more information:
Weblink - LoadMaster

The highest standard of mechanical engineering quality; over 30 years of experience in factory automation; global presence. It is fair to say that the handling facilities of the LoadMaster series manage their loading tasks perfectly. And this in addition to remarkable investment and ROI factors.



01 | Flexibly configurable pallet storage

02 | Transfer unit with 4,000 kg load capacity

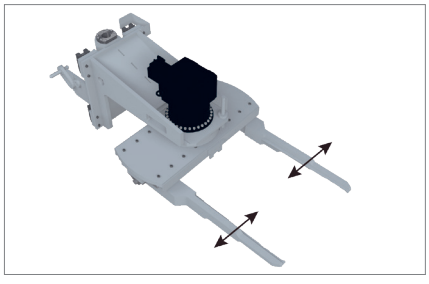
03 | Control panel and process control system

04 | Loading/setup station

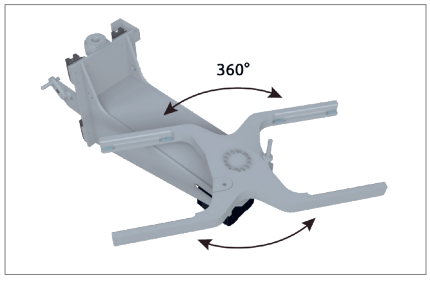
05 | Machine tool 1

06 | Walk-in setup station

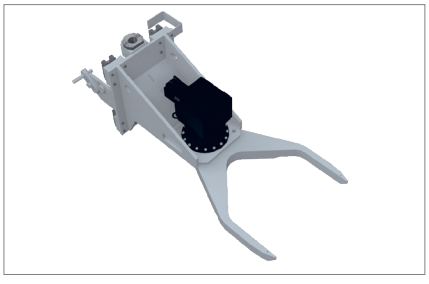
07 | Safety light barrier



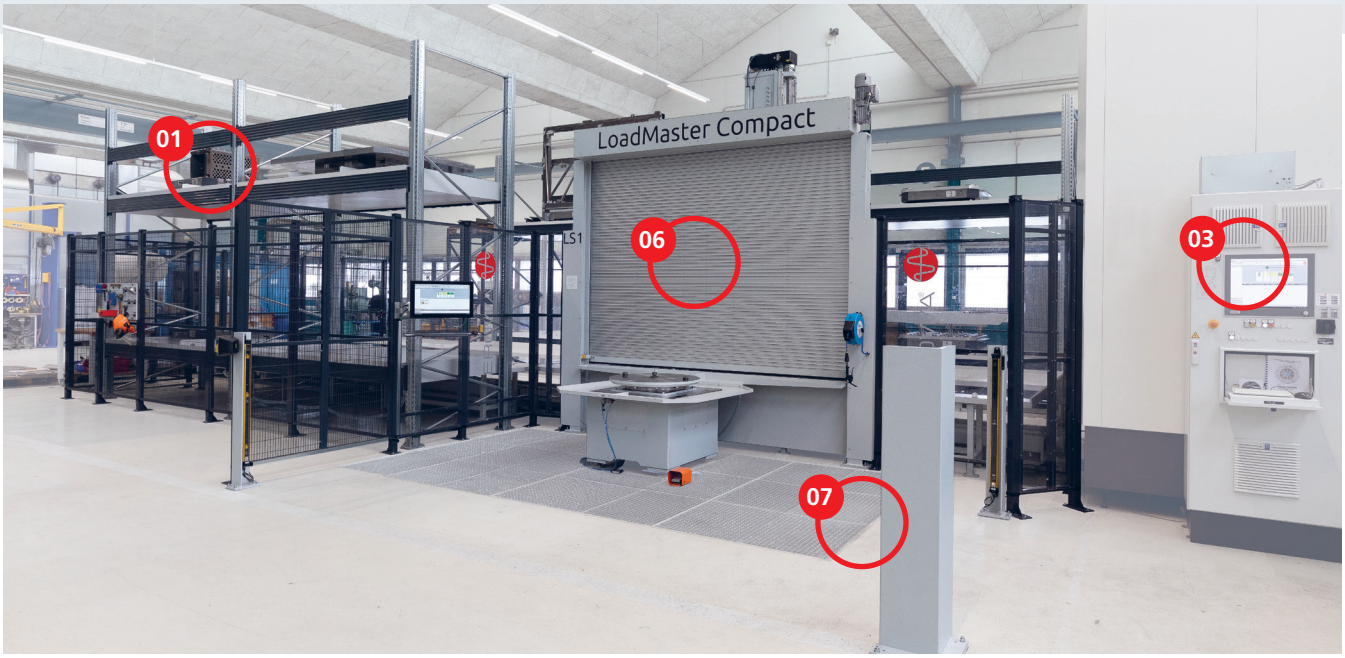
Multifork gripper automatically adjusts to the pallet size



Twinfork gripper for quick changeover on the machine



Single fork gripper (Standard) with rotation axis for entering narrow spaces



These tooling systems are especially suitable for use on the LoadMaster Compact

Cutting
PC 210



EDM and cutting
UPC



Cutting
MTS 630x630



Cutting
MTS 600x800



Technical data

EROWA LoadMaster Compact	
Transfer weight	**4,000 kg**
System height	from 3.5 to 5.0 m
Rail length	from 6 to 30 m (Longer rail on request)
Voltage (V+PE)	3x400
Interface	Ethernet
Process control system	JMS 4.0

FACTS

- Up to 4,000 kg transfer weight
- Up to 4 levels in pallet storages
- Ergonomic setup stations
- Individual modules can be combined
- Integrated safety device
- Adapted grippers

LoadMaster Compact by EROWA

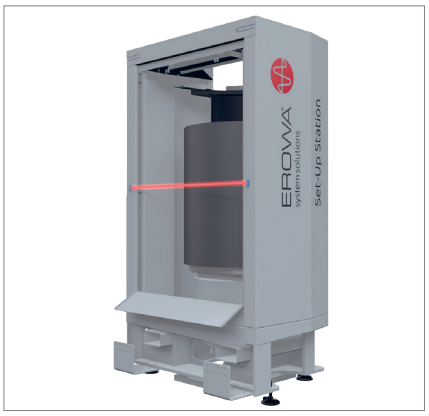
LoadMaster by EROWA

Very flexible loading possibilities

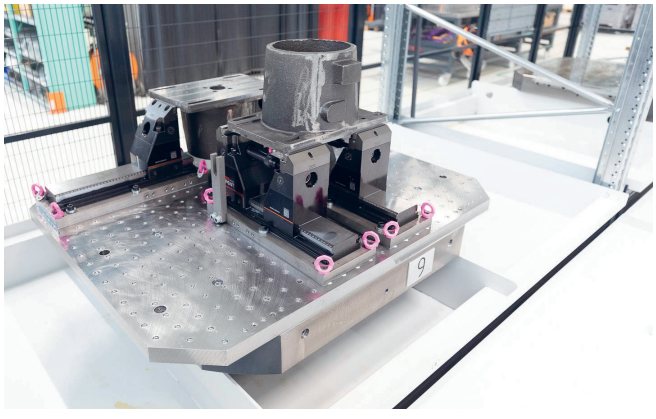


Pallet storage locations to the left and right of the transport rail

The clear height of the storage locations depends on the ceiling height and the workpiece sizes



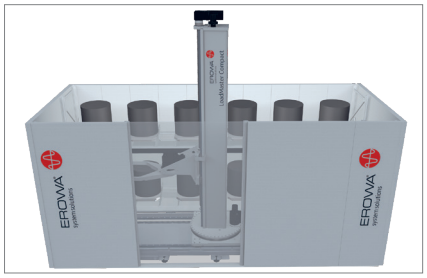
Loading or unloading station. If the light barrier is interrupted, the system is stopped.



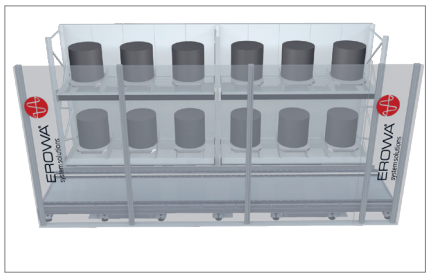
Existing fixtures are palletized and reused seamlessly



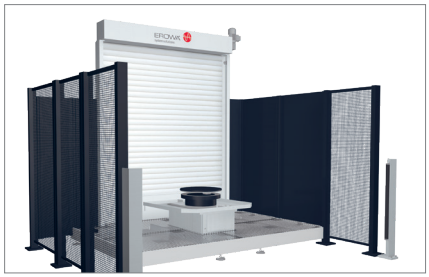
With the JMS 4.0 ProductionLine software, the operator maintains an overview of the entire pallet store, the status of the machine, and the progress of orders at all times



It starts with the basic module. That's enough for one machine



If the storage locations are running low, extend the system by a module



For the preparation of large workpieces – the walk-in setup station



A large workpiece is prepared via the walk-in setup station and fed into the process. Easily accessible for work all around and for transport by overhead crane.

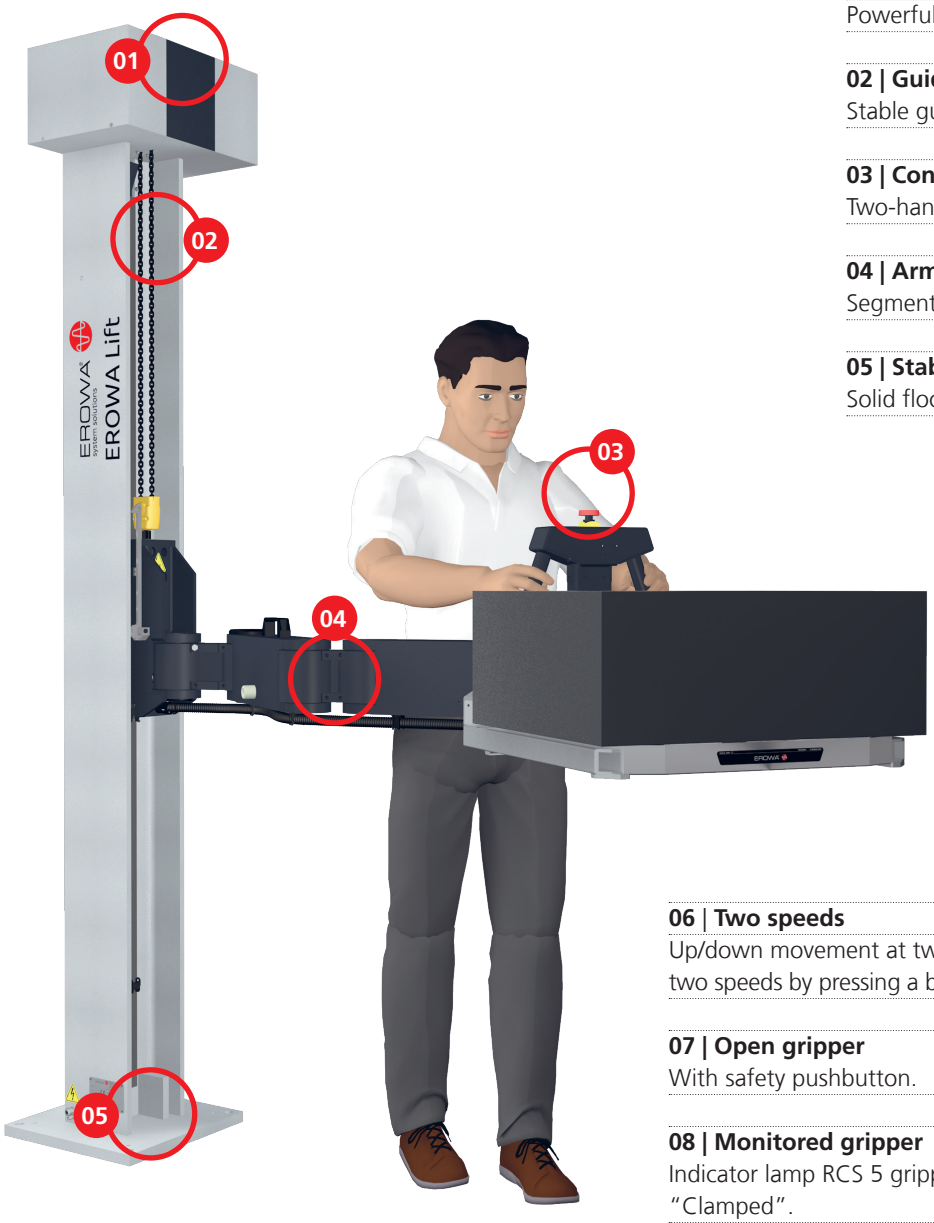
more information: Weblink

The maintenance agreement. Order right away when you buy.

EROWA Lift 250

Easy loading of machines

The EROWA Lift is designed for frequent pallet changes directly onto the machine or into the handling facility. Mounted permanently next to the machine, it is always there when needed.



Back-friendly lifting of the pallet.
Directly from the workshop trolley into the magazine.
Also accessible at the very top.

01 | Drive
Powerful drive with two-stage speed.

02 | Guidance
Stable guidance of the Z-axis.

03 | Control system
Two-hand control with integrated operation.

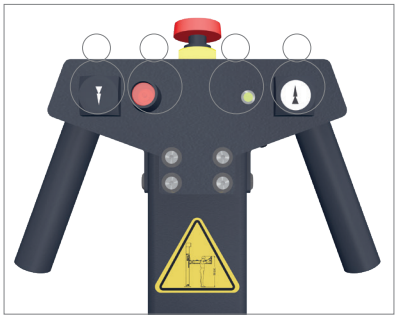
04 | Arm
Segmented arm for optimum accessibility.

05 | Stabilization
Solid floor anchoring with leveling.

06 | Two speeds
Up/down movement at two two speeds by pressing a button.

07 | Open gripper
With safety pushbutton.

08 | Monitored gripper
Indicator lamp RCS 5 gripper "Clamped".

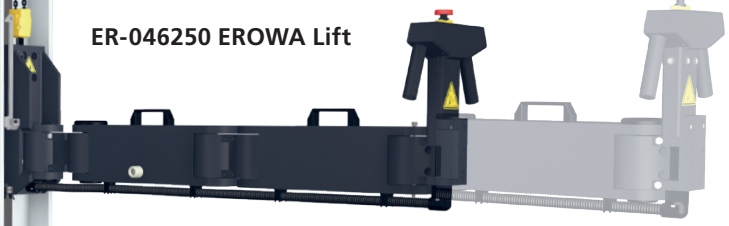


more information:
Weblink - Lift 250

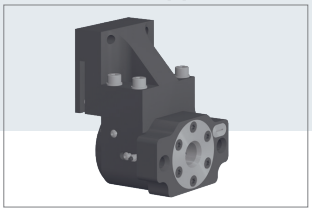


ER-046250 EROWA Lift

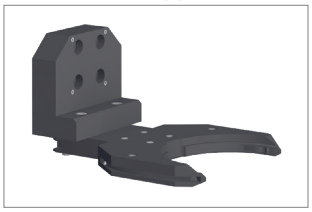
Option
ER-111922 Long arm



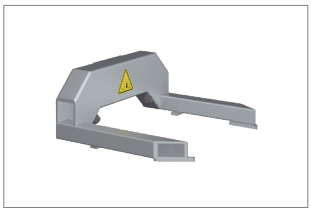
ER-046162 Gripper RCS 5



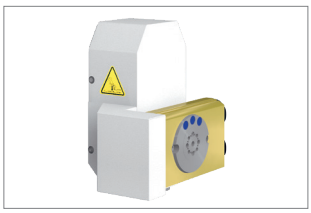
ER-030192 Gripper ITS 148



ER-046164 Gripper fork UPC with RCS5



ER-099451 Swiveling axis 180°



Pneumatic swiveling axis for 180° swiveling range and 50 Nm torque.

ER-108194 RCS5 Gripper with load hook



max. 2500 N.
Load hook for RCS5 coupling.

Technical data

ER-046250	EROWA Lift	with arm extension
Transfer weight	max. 250 kg	max 100 kg
Gripper movement	Z = 1,660 mm	Z = 1,660 mm
	X = 1,300 mm	X = 1,850 mm
	Swiveling range 360°	
Installation	4 heavy load anchors M12	
	Floor strength min. C20/25	
Pneumatic system	min. 5 bar	
Voltage	3 x 380/400 V	
Frequency	50 Hz	
Drive	Rapid traverse rate 4 m/min	
	Creep speed 1 m/min	

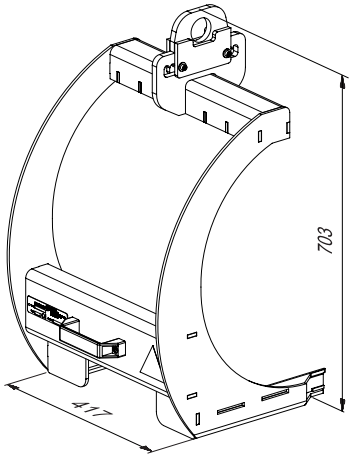
EROWA LiftGear



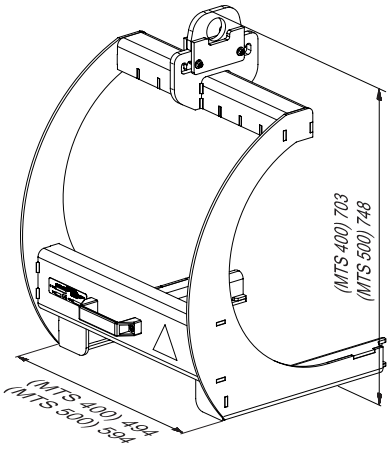
Pallets weighing more than 20 kg must be easily and precisely inserted into UPC or MTS chucks on the machine tool. With the LiftGear and an overhead crane, this is a piece of cake.

Your advantages
- Gentle machine and handling loading.
- Quality improvement through careful and safe handling.
- Safety-compliant work.

Application:
Loading of machine tools, pallet magazines, robot magazines, presetting stations, measuring stations.



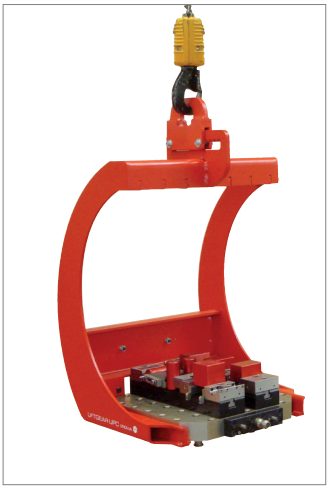
EROWA LiftGear UPC



EROWA LiftGear MTS 400 / MTS 500

Technical data

	ER-069551	ER-042800	ER-077012
	LiftGear UPC	**LiftGear MTS 400**	**LiftGear MTS 500**
Transfer weight	250 kg, incl. pallet	250 kg, incl. pallet	250 kg, incl. pallet
Pallet type	UPC 320 x 320 mm	MTS 400	MTS 500
Maximum workpiece dimensions L x B x H	320 x 380 x 450 mm	400 x 450 x 450 mm	500 x 550 x 450 mm



EROWA LiftGear UPC



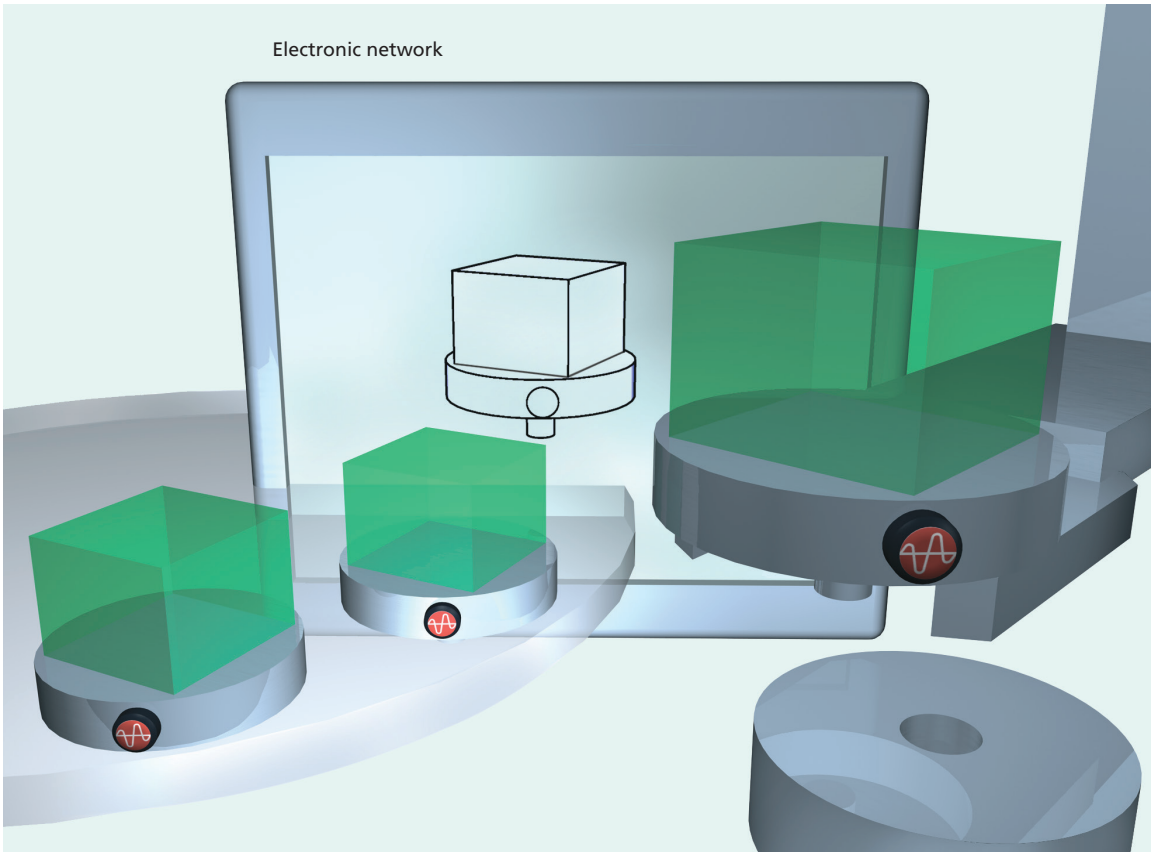
EROWA LiftGear MTS



more information:
Weblink - Contact

Contact us with your requirements.
Several other variants of the LiftGear series are available.

EROWA data transfer systems



Integration of systems and communication channels. This precludes sources of error as much as possible, and will guarantee a faster flow of communication.

For chip-removing processes

For EDM sinking

For WEDM

EROWA DATA TRANSFER SYSTEMS

EROWA Smart Factory 406
Digital production in just a few steps

EROWA JMS 4.0 process control system 408
From the production cell to interlinked production

EROWA JMS 4.0 process control system 412
A suitable solution to satisfy any requirement
JMS 4.0 MoldLine
JMS 4.0 ProductionLine

EROWA Smart Factory

Digital production in just a few steps

Today's production industry is situated in a dynamic environment which calls for new and flexible answers. New challenges arise every day. Demands for quality and availability are on the increase.

EROWA's solutions are modular and scalable: independent of the various production processes, machine tools by all manufacturers and of different generations can be integrated.

FACTS

- More process reliability through data automation
- Tailor-made solutions on the basis of EROWA standard products
- More efficiency thanks to an unbroken electronic data flow
- Less machine down-time





Smart Factory is not a mere buzzword for us I The integrative optimization of process chains has been in our genes ever since EROWA was established in 1971. Thus we may claim that it is not merely since the trend towards Industry 4.0 that our customers have raised their production to a new level with modular solutions from the EROWA portfolio.



Degree of automation to meet your requirements I Thus workpieces can be loaded and unloaded in a fully automated process with tailor-made EROWA robots, which, is not an indispensable requirement for an efficient production cell. This starts with the automation of the data, and the automatic loading process can happen in a second step on request.



With competent advice to the right decision I At EROWA, we have listened to the wishes of our customers from a wide variety of corporate sizes. Thus we provide tailor-made solutions that fit your production process and degree of digitalization.

more information:
Weblink - Smart Factory

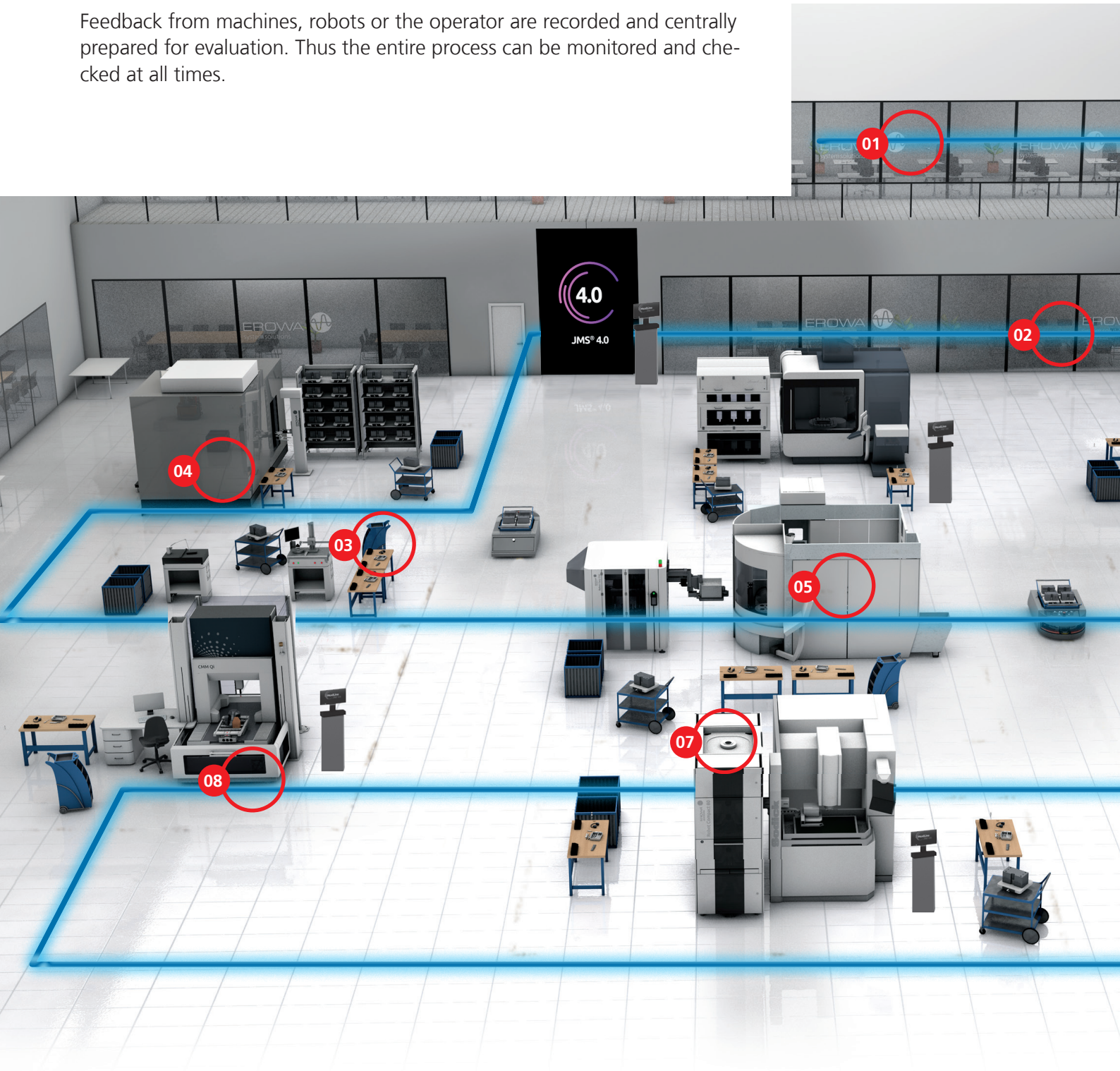
EROWA JMS 4.0

From the production cell to interlinked production

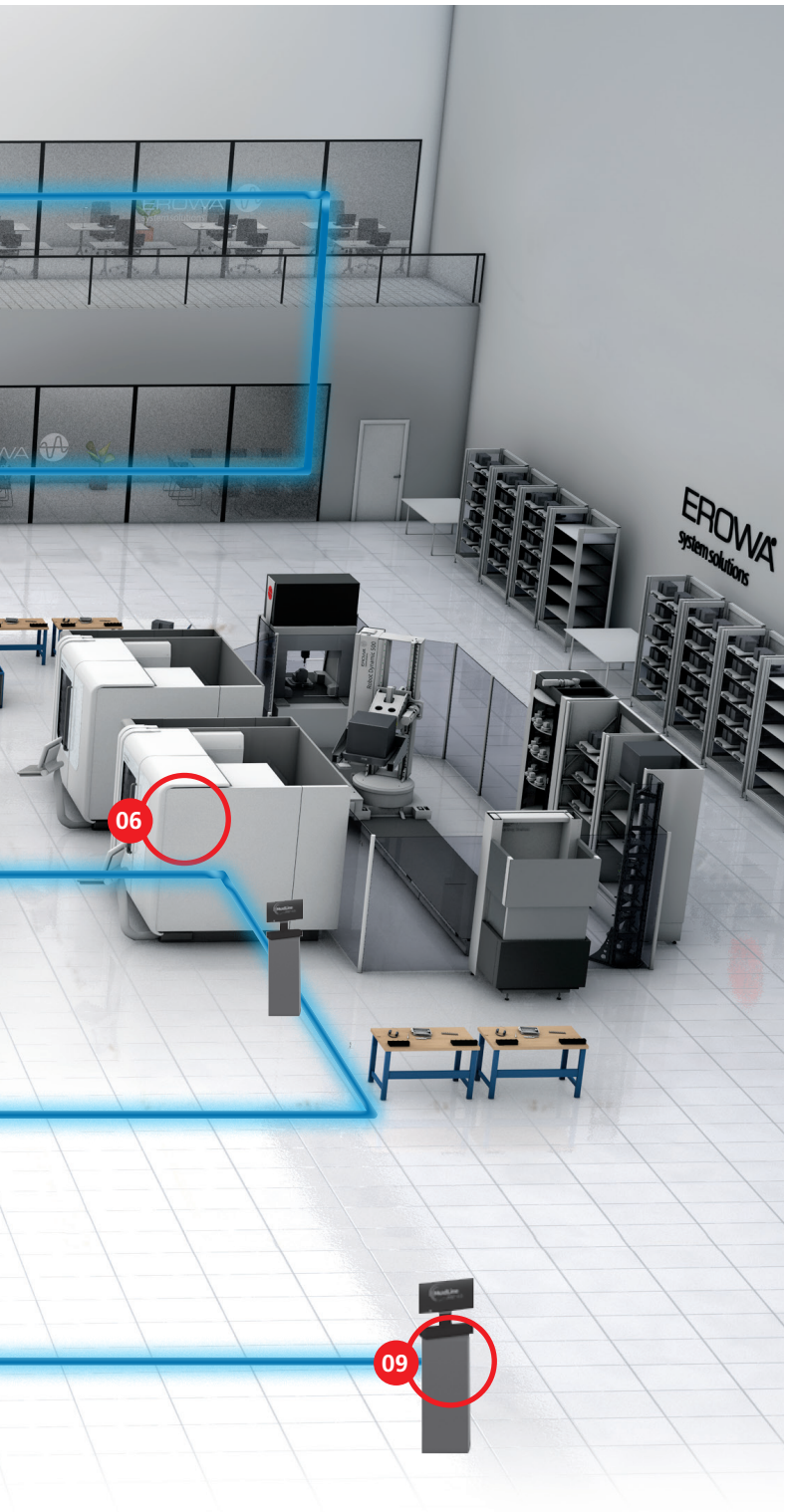
Flexible interfaces with upstream and downstream systems integrate production into the existing IT infrastructure.

The imported process data are transmitted to the relevant production cells at the right time and in the right format.

Feedback from machines, robots or the operator are recorded and centrally prepared for evaluation. Thus the entire process can be monitored and checked at all times.



JMS® 4.0
EROWA Productivity Suite



01 | Order registration with ERP

02 | CAD/CAM office

03 | Setting-up and datum point determination while the machine is in operation

04 | Milling with manual loading process

05 | Milling with automatic loading process by a monobloc robot

06 | Milling and in-process measuring with automatic loading process by a linear robot

07 | EDM with automatic loading process by a monobloc robot

08 | Quality measurement

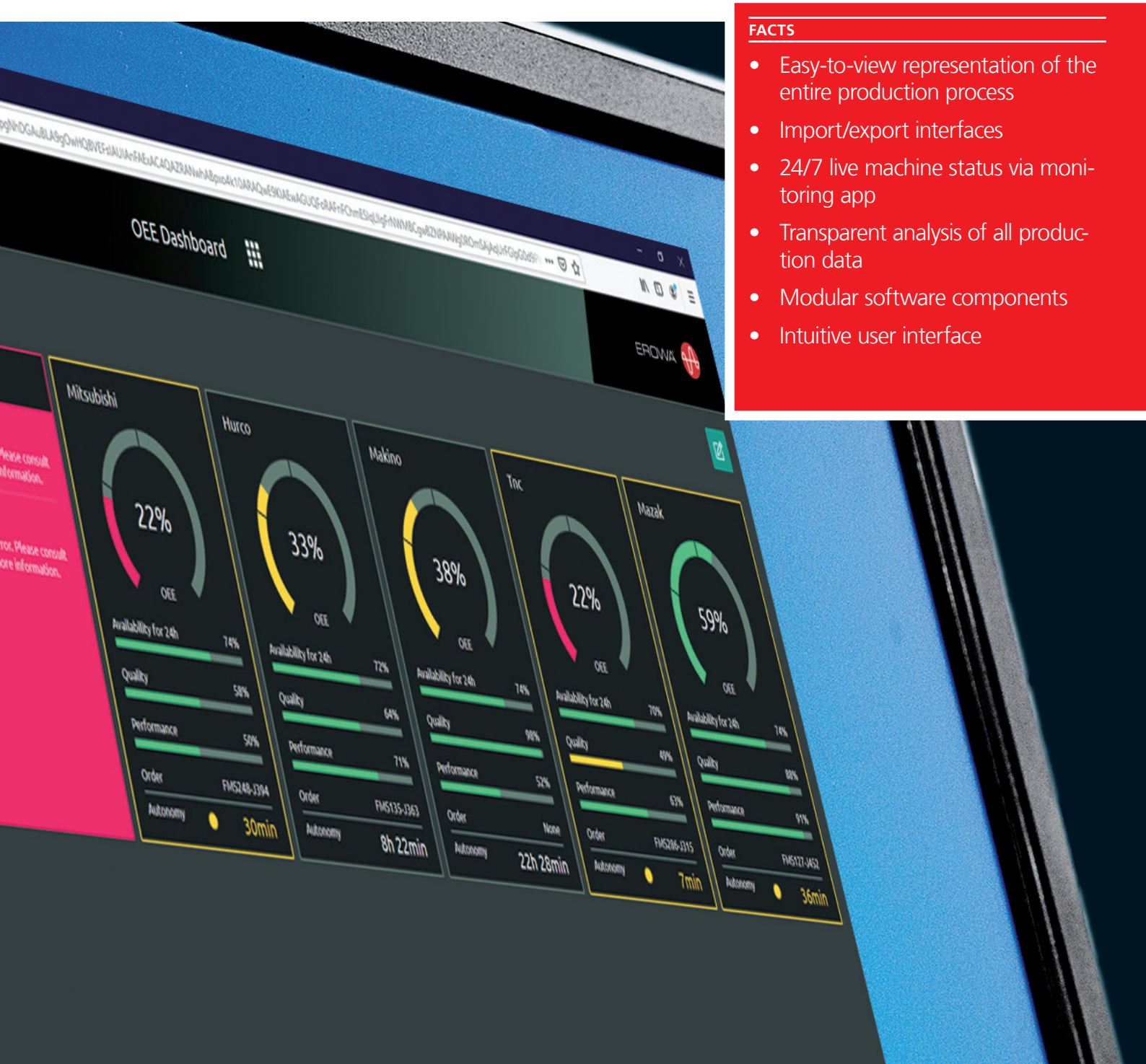
09 | Monitoring and reporting of the system



EROWA JMS 4.0

Planning, controlling and monitoring of individual processes

The EROWA JMS 4.0 process control system links up all the data and controls the entire production process. It automates the data flow from ERP and CAD/CAM to the production cells. JMS 4.0 assumes control of the robots and data transmission and the monitoring of the linked-up machines.

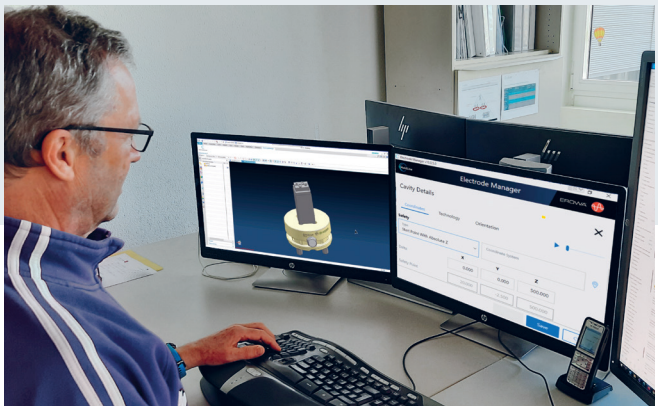


FACTS

- Easy-to-view representation of the entire production process
- Import/export interfaces
- 24/7 live machine status via monitoring app
- Transparent analysis of all production data
- Modular software components
- Intuitive user interface



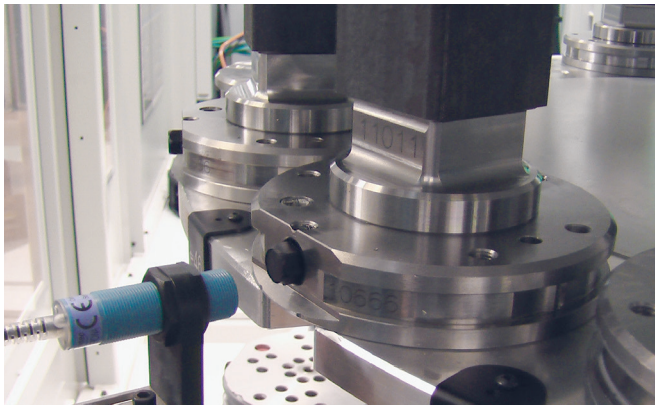
Controlled data flow I The process control system controls and monitors production cells. The complete universality of the data with all systems allows for genuinely comprehensive monitoring and process security.



Simple import/export of data I JMS 4.0 has a wide variety of interfaces to job and production planning systems such as ERP / PPS / CAD / CAM and others. In this way, data is automatically imported and the current production status is reported back in real time.



User-friendly and easy to operate I JMS 4.0 ensures a clear overview of current jobs. All the data that is relevant to production are represented in a user-friendly fashion. Current status messages assist the operator.



Universal identification I With the RFID-based EROWA EWIS system, the pallets and electrode holders are unequivocally identified. Thus the operator is always informed about the current position and status of the workpieces and electrodes. Automatic reading of the magazine load is the precondition for a high degree of process security.



Reporting I Job or machine reports can be generated with a few clicks. A user-friendly interface and its availability in the entire network make this application an indispensable tool for process optimization.



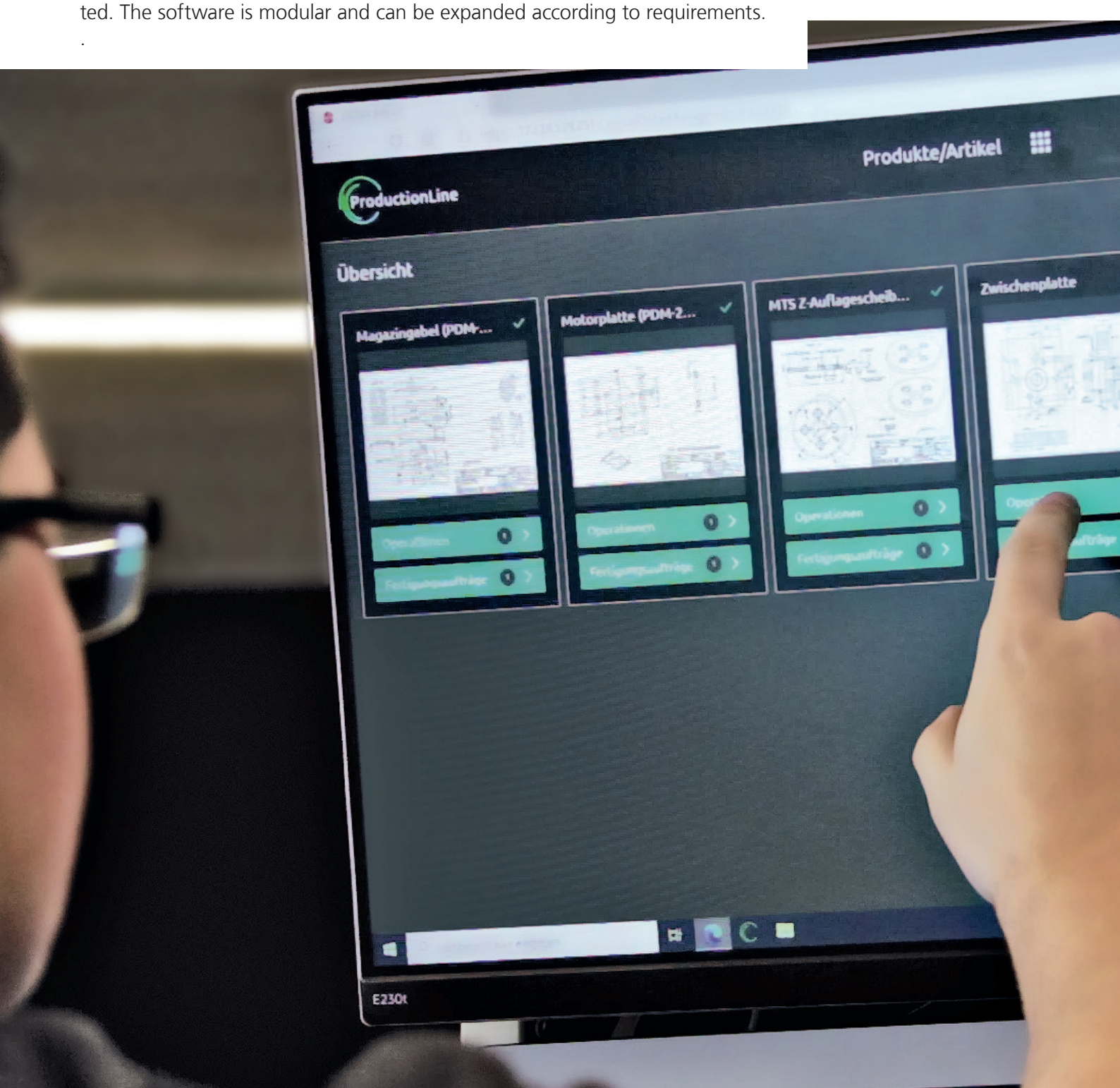
Transparency about productivity I Dashboard and supervision applications show the efficiency parameters in real time, as well as the current status of the production cells in the system.

EROWA JMS 4.0

A solution to meet any requirement

Whether for EDM or WEDM, milling, drilling, grinding or measuring: the JMS 4.0 software solutions link up machines for a wide variety of production technologies.

You determine the degree of integration yourself: with or without automation, whether one single machine is linked up or the workshop is universally integrated. The software is modular and can be expanded according to requirements.
.



EROWA JMS 4.0

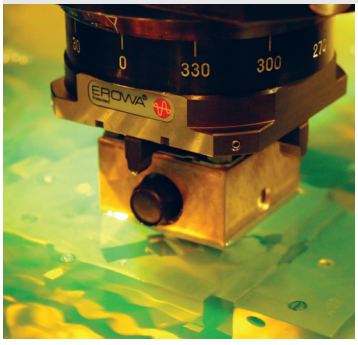
We accompany you on the way to the right choice. Our specialists will be glad to advise you and show you what your perfect solutions can look like and be implemented step by step.

YOUR ADVANTAGES

- Workflow monitoring for the production process
- Secure and efficient data exchange with CAD/CAM and ERP
- Part offset data import directly from the presetting station
- Integration of ancillary processes such as cleaning and drying
- In-process quality checks of electrode and workpieces
- Anticipatory tool monitoring

MoldLine JMS® 4.0

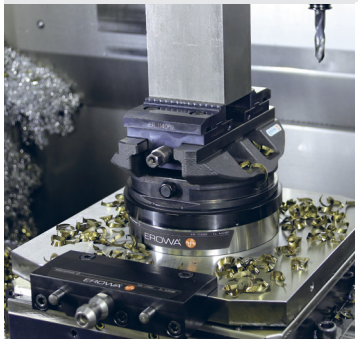
The process control system for complete individual solutions: flexible and scalable.



more information:
Weblink - JMS 4.0 MoldLine

ProductionLine JMS® 4.0

The process control system for chip-cutting production: fast and reliable.



more information:
Weblink - JMS 4.0 ProductionLine

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This is where you will find all the EROWA order numbers in numerically ascending order, together with the numbers of the pages on which the products are presented in pictures.

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